

# Harmonized MHAS Documentation

**VERSION B.2 (2001-2015), JUNE 2021**

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## Preface

The Mexican Health and Aging Study (MHAS) is a longitudinal household survey dataset for the study of health, economic position, and quality of life among the elderly. It was modeled after the Health and Retirement Study (HRS), a similar longitudinal survey dataset in the United States. Part of the reason for the close connection is to allow cross-country comparisons using these data.

In order to make the data more accessible to researchers and to facilitate such comparisons, we, the USC Gateway to Global Aging team, created the Harmonized MHAS, a user-friendly version of a subset of the MHAS Interviews. The Harmonized MHAS 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 (United States), Harmonized ELSA (England), Harmonized SHARE (Europe + Israel), Harmonized CRELES (Costa Rica), Harmonized KLoSA (South Korea), Harmonized JSTAR (Japan), Harmonized TILDA (Ireland), Harmonized CHARLS (China), Harmonized MARS (Malaysia), and Harmonized LASI (India) data. Further information about these Harmonized data files with questionnaires and other metadata is available on our searchable website, <https://g2aging.org/>.

In creating the Harmonized data files, we have followed the RAND HRS and Harmonized HRS conventions of variable naming and data structure. The RAND HRS is a user-friendly version of a subset of the HRS that the RAND Center for the Study of Aging created to increase usability. The Harmonized HRS is a supplementary dataset to the RAND HRS, which also includes a subset of the HRS data, that the Gateway to Global Aging team has created to increase usability of a greater number of HRS variables. The Harmonized MHAS includes variables with a similar naming convention that mimics the RAND HRS, Harmonized HRS, and other Harmonized variables. This document describes these data.

Note, however, that MHAS license agreements do not allow us to disseminate the data directly. Instead, MHAS distributes the Harmonized MHAS dataset. We also make available a Stata script ("do file") that generates these derived variables from the original MHAS data files. Additional information about MHAS can be obtained from the MHAS website at <http://www.mhasweb.org/>.

We are grateful for the continuing support of and funding from NIA. In interpreting the MHAS data, we greatly benefited from the help and insights of MHAS staff members. We have greatly benefited from the discussions with and the suggestions from our colleagues at the University of Southern California and RAND Corporation.

## **Requested Acknowledgment**

We ask all users of the Harmonized MHAS to please inform our team of any written analysis using data from the Harmonized MHAS or information from the Harmonized MHAS Codebook by sending an email to [papers@g2aging.org](mailto:papers@g2aging.org). We also ask users to include the following acknowledgement in their written work: “This analysis uses data or information from the Harmonized MHAS dataset and Codebook, Version B.2 as of June 2021 developed by the Gateway to Global Aging Data in collaboration with the MHAS research team. The development of the Harmonized MHAS was funded by the National Institute on Aging (R01 AG030153). The Harmonized MHAS data files and documentation are public use and available at [www.MHASweb.org](http://www.MHASweb.org). The MHAS (Mexican Health and Aging Study) receives support from the National Institutes of Health/National Institute on Aging (R01 AG018016) in the United States and the Instituto Nacional de Estadística y Geografía (INEGI) in Mexico. For more information about the Harmonization project, please refer to [www.g2aging.org](http://www.g2aging.org).”

## **MHAS Version and Acknowledgment**

This document uses data from the MHAS datasets as of September 2020. The MHAS (Mexican Health and Aging Study) is partly sponsored by the National Institutes of Health/National Institute on Aging (grant number NIH R01AG018016) in the United States and the Instituto Nacional de Estadística y Geografía (INEGI) in Mexico. Data files and documentation are public use and available at [www.MHASweb.org](http://www.MHASweb.org).

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## What's New in Version B.2 of the Harmonized MHAS?

Version B.2 incorporates the latest released version of MHAS data, and adds many new variables. It contains 22,016 observations or rows. It is a Respondent-level file so each row represents a unique Respondent. It also adds new variables and makes adjustments and corrections.

We have added the following new sections to the file:

### Physical Measures:

- We added variables for all available waves in the following topics: height, weight, BMI, waist and hip circumference measurements, sitting height, balance tests, blood pressure measurements, timed walk measurement, and hand grip strength measurements.

### Assistance and Caregiving:

- We added variables for all available waves in the following topics: IADL help, future ADL help, receives help with chores from children or grandchildren, and provides informal care. Additionally, for ADLs, IADLs, and ADLs or IADLs we added variables for all available waves in the following topics: whether receives any care, whether receives any informal care, receives informal care from spouse, receives informal care from children or grandchildren, receives informal care from relatives, receives informal care from friends, whether receives any formal care, and receives formal care from paid professional.

We have added the following variables to the file:

### Health:

- We added new ADL summaries for all available waves: **RwADLTOT\_M** and **RwADLFIVE**.
- We added new mobility summaries for all available waves: **RwMOBILSEV**, **RwUPPERMOB**, and **RwLOWERMOB**.
- We added **RwHEARTE** starting in Wave 4 when the questionnaire was adjusted to capture the respondent's experience with a variety of heart problems.
- We added variables indicating whether the respondent takes medication for doctor diagnosed health conditions in all available waves: **RwRXHIBP**, **RwRXDIABO**, **RwRXDIABI**, **RwRXDIAB**, **RwCNCRCHEM**, **RwCNCRSURG**, **RwCNCRRADN**, **RwCNCRMEDS**, **RwCNCROTHR**, **RwRXLUNG\_M**, **RwRXHRTAT**, **RwRXSTROK**, and **RwRXARTH**.
- We added variables indicating whether the respondent's activities are limited by doctor diagnosed health conditions in all available waves: **RwLUNGLMT\_M**, **RwHRTATLMT**, **RwSTROKLMT**, and **RwARTHLMT**.
- We added variables indicating the respondent's age at their most recent diagnosis of a doctor diagnosed health condition in all available waves: **RwRECCANCR**, **RwRECHRTATT**, and **RwRECSTROK**.
- We added variables indicating the respondent's self-rated vision, **RwSIGHT**, and whether they wear glasses, **RwGLASSES**, in all available waves.
- We added variables indicating the respondent's self-rated hearing, **RwHEARING**, and whether they wear a hearing aid, **RwHEARAID**, in all available waves.
- We added variables indicating the respondent's experience with falls and hip fractures in all available waves: **RwFALL**, **RwFALLNUM**, **RwFALLINJ**, **RwHIPE\_M**, and **RwHIP\_M**.
- We added variables indicating the respondent's experience with urinary incontinence in all available waves: **RwURINA2Y**, **RwURINURG2Y**, and **RwURINCGH2Y**.
- We added variables indicating the respondent's experience with persistent health problems in all available waves: **RwSWELL**, **RwBREATH\_M**, **RwWHEEZE**, and **RwFATIGUE**.

- We added variables indicating the respondent's experience with sleep in all available waves: **RwFALLSLP**, **RwWAKENT**, **RwWAKEUP**, and **RwRESTED**.
- We added variables indicating the respondent's experience with pain in all available waves: **RwPAINRFR**, **RwPAINLV**, and **RwPAINA**.
- We added variables in all available waves indicating whether respondents who are women have ever had a hysterectomy, **RwHYSTERE**, and their age at their last menstrual period, **RwLSTMNSPD**.
- We added variables indicating the respondent's experience with binge drinking in all available waves: **RwDRINKB** and **RwBINGED**. We also added variables indicating the respondent's CAGE assessment in all available waves: **RwDRINKCUT**, **RwDRINKCR**, **RwDRINKBD**, **RwDRINKNR**, **RwCAGE**, and **RwCAGEM**.
- We added variables indicating the age the respondent started smoking, **RwSTRYSMOK**, and quit smoking, **RwQUITSMOK**, in all available waves.

#### **Cognition:**

- We added **RwSER7** for Wave 4, indicating the respondent's results from the serial 7 subtraction test.

#### **Employment History:**

- We added **RwJREDHR** in all available waves, which indicates whether the respondent's job allows for a move to less demanding work.
- We added **RwJRSLEFT** in all available waves, which indicates the respondent's reason for leaving their previous job.

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

#### **Demographics:**

- We removed **RwIW** from the dataset. Please see **RwIWY** and **RwIWM** for the year and month of the interview.
- We removed **RABFLAG** from the dataset.

#### **Health:**

- We renamed **RwIADLZA\_M** to **RwIADLFOUR** for consistency with other Harmonized datasets.
- We renamed **RwHEARTE\_M** to **RwHRTATTE** for consistency with other Harmonized datasets.
- We renamed **RwSMOKET** to **RwSMOKEF** for consistency with other Harmonized datasets.

#### **Pension:**

- We renamed **RwSSAGEB** to **RwPUBAGE** for consistency with other Harmonized datasets.

#### **Physical Measures:**

- We moved **RwBMIA**, **RwHEIGHTA**, and **RwWEIGHTA** from the Health section to the Physical Measures section and renamed them **RwMBMI**, **RwMHEIGHT**, and **RwMWEIGHT** for consistency with other Harmonized datasets.

#### **Assistance and Caregiving:**

- We moved **RwDRESSH**, **RwWALKRH**, **RwBATHH**, **RwEATH**, **RwBEDH**, and **RwTOILTH** from the Health section to the Assistance and Caregiving section, and renamed them **RwDRESSHLP**, **RwWALKHLP**, **RwBATHEHLP**, **RwEATHLP**, **RwBEDHLP**, and **RwTOILETHLP** for consistency with other harmonized datasets.
- We moved **RwWALKRE** and **RwBEDE** from the Health section to the Assistance and Caregiving section.

# 1. Introduction and Overview

This report documents the Harmonized MHAS data files, a streamlined collection of variables derived from the Mexican Health and Aging Study (MHAS). The MHAS is a panel survey of people aged 50 and over and their partners, living in private dwellings in both urban and rural areas in Mexico. The study was designed to prospectively evaluate the impact of disease on the health, function and mortality of adults. The overall goal of the study is to examine the aging process, and the disease and disability burden in a large representative panel of older Mexicans, using a wide socioeconomic perspective. The study protocols and survey instruments are highly comparable to the U.S. Health and Retirement Study (HRS). The data files and documentation are available free of charge at the study website [www.MHASweb.org](http://www.MHASweb.org). For more details on the study background and design, see Wong 2015 and MHAS 2013.

The initial MHAS sample was drawn from the 2000 National Survey of Employment (ENE), carried out by the INEGI (Instituto Nacional de Estadística y Geografía) in Mexico. The first wave of the MHAS was conducted in the summer of 2001. This initial sample included 15,186 respondents aged 50 and over and their spouses, regardless of age, as of the year 2001. The second wave of MHAS followed-up with the Wave 1 respondents and was conducted in the summer of 2003. The second wave of MHAS included follow-ups with 13,431 respondents from the initial sample, 273 new respondents including new spouses, and 546 next-of-kin interviews regarding deceased participants. The 2012 survey was conducted in the fall of 2012, it followed-up the original MHAS sample and included a refreshment sample. This refreshment sample included persons 50 to 60 years old, selected from the 2012 National Occupation and Employment Survey (ENOE). The third wave included 9,634 follow-up respondents and 5,912 new respondents including the refreshment sample and new spouses, and 2,742 next-of-kin interviews. The fourth wave of the MHAS, in 2015, included the follow-up of 16,983 subjects interviewed in the previous waves, 306 new spouses, and 697 new subjects selected in 2012 for the refresher sample but without an interview in Wave 3. The MHAS is a collaborative effort among researchers from the University of Texas Medical Branch (UTMB), the Instituto Nacional de Estadística y Geografía (INEGI, Mexico), the University of Wisconsin, the Instituto Nacional de Geriátría (INGER, Mexico) and the Instituto Nacional de Salud Pública (INSP, México), and University of California Los Angeles (UCLA).

The data include any individual interviewed at least once. This includes selected subjects, spouses regardless of their age, new spouses of selected subjects, and former spouses of the selected subject.

The MHAS data are contained in several files. The Harmonized MHAS data file incorporates data from the core interview data, the master follow-up file, household roster data, and next-of-kin data. It does not include any data which is not public release.

Documentation of the MHAS methodology can be found in Mexican Health and Aging Study MHAS 2012, Sample Design (2013).

## 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 as population aging has progressed in every region of the world.

The result has been a number of surveys designed to be comparable with the HRS: the Mexican Health and Aging Survey (MHAS), the English Longitudinal Study of Ageing (ELSA), the Survey of Health, Ageing and Retirement in Europe (SHARE), 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), Health and Aging in Africa: A Longitudinal Study of an INDEPTH Community in South Africa (HAALSI), the Brazilian Longitudinal Study of Ageing (ELSI), Healthy Ageing in Scotland (HAGIS), the Northern Ireland Cohort Longitudinal Study of Ageing (NICOLA), 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 (2010) and Lee et al. (2019).

As these surveys were partly 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 lessons resulting from 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 <http://g2aging.org>. For more information about using the Gateway visit the Help page. For more information about obtaining the Harmonized MHAS from MHAS or downloading the Stata file used to create the Harmonized MHAS using the Gateway see “Chapter 4. Distribution and Technical Notes.”

## 1.2 Unit of Observation

We distinguish between two units of observation: individual and household. A "household" in this sense means "single individual, or individual with his/her spouse", whatever applicable.

This is the same design as the HRS, where an age-eligible individual is sampled and then this individual and his or her spouse or partner is interviewed, but no other household members, even if they are age-eligible. Thus, in the HRS and in MHAS, there is no distinction between a "couple" and a "household".

MHAS provides a limited amount of information about household members who are not interviewed. The household respondent provides information on all household members including, age, sex, and marital or partner status. Only individuals over 50 and their spouses or partners are selected for a subsequent interview. In our files, we do not include non-respondents, and thus in particular we do not include the information about household members who were not eligible to be interviewed.



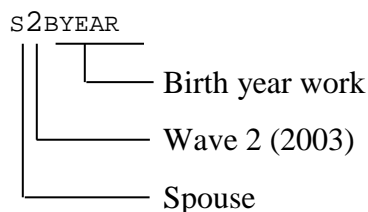
### 1.3 Data File Structure

The Harmonized MHAS data are contained in a single file which includes the first four waves of MHAS. The data are stored in a “fat format” where each observation represents one respondent. There are three types of variables for the individual record: “R” respondent variables, “S” spouse variables, and “H” household variables. Respondent variables represent the respondent of the individual record. Spouse variables represent the spouse of the respondent of the individual record, if there is a spouse. Household variables represent the household of the individual record which is the respondent and their spouse, if there is a spouse. The value of household variables is the same for both a respondent and their spouse. If the respondent does not have a spouse the household variables represent just the respondent of the individual record.

The household and person identification variables changed between different waves of the MHAS and changed in different files of the same wave of MHAS. In Wave 1, households are identified by the unique household identification *unhhid* (same as *cunicah*) and persons in the study within the household are identified by *codent01* (same as *ps3*). In Wave 2, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *acthog* – a sub-household id that indicates changes in the household between Waves 1 and 2. Also, individuals are uniquely identified by *codent03* (same as *ent2*). In Wave 3, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *subhog\_12* – a sub-household id that indicates changes in the household between Waves 2 and 3. In Wave 4, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *subhog\_15* – a sub-household id that indicates changes in the household between Waves 3 and 4. Persons are uniquely identified by *np*. This file may be merged with other MHAS data using the combination of survey-specific household and person identification variables available in the MHAS Master Follow-up File, available at [www.MHASweb.org](http://www.MHASweb.org).

### 1.4 Variable Naming Convention

With few exceptions, variable names in the Harmonized MHAS Data follow a consistent pattern. The first character indicates whether the variable refers to the reference person (“r”), spouse (“s”), or household (“h”).<sup>1</sup> The second character indicates the wave to which the variable pertains: “1”, “2”, “3”, “4” 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 *s2byear* captures the birth year of the spouse of the reference person. The name of the variable does not indicate who provided the information. For example, the spouse’s birth year may have been

<sup>1</sup> The reference person need not be the person who responded to the question. It is the person whose information is central to the data file observation.

reported by the spouse himself or herself, or it may have been reported by the reference person as a proxy. The MHAS obtains many variables, particularly on financial and family matters, reported by a proxy.

In the text below, we may refer to variables such as SwBYEAR for example, without specifying the wave. This reference points at the group of variables `s1byear`, `s2byear`, `s3byear`, `s4byear`.

Variable labels also follow a consistent pattern. The first characters denote the name of the variable, followed by a colon. Then the wave to which the variable pertains (w1, w2, w3, or w4) follows. The remainder of the label describes the concept that the variable captures. For example, the variable label of `s2byear` is:

```
S2BYEAR:W2 S Birth year
```

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

Variable names in the Harmonized MHAS are generally based on the variable name used in the RAND HRS or Harmonized HRS for the same measure. Measures which are exactly or near-exactly comparable between the Harmonized MHAS and RAND HRS or Harmonized HRS use the exact same name. For instance RABYEAR is the variable name for the respondent birth year in both the Harmonized MHAS as well as the RAND HRS. If the Harmonized MHAS measure is deemed only somewhat comparable with the RAND HRS or Harmonized HRS version of that measure, the variable name in the Harmonized MHAS will often end in “\_M.” This variable name suffix indicates some MHAS-specific difference with the RAND HRS or Harmonized HRS version of this measure. For instance the Harmonized MHAS variable labor force status is named `RwLBRF_M` while the RAND HRS variable for respondent cohort is named `RwLBRF`. The reason for this difference in variable name is that the MHAS used a different set of labor force statuses than the HRS. Other reasons for Harmonized MHAS-specific variable names include: differences in survey questions, differences in survey routing, and whether both sets of variables use imputed values. Harmonized MHAS-specific variable names are used to notify the user that there are substantial differences between the RAND HRS or Harmonized HRS and Harmonized MHAS measure and clean harmonization between these measures is not possible.

The Harmonized MHAS includes some variables without Harmonized MHAS-specific variable names even though the Harmonized MHAS measure is significantly different from the RAND HRS or Harmonized HRS measure of the same name. In particular wealth and income measures in the Harmonized MHAS do not use Harmonized MHAS-specific variable names even though wealth and income measures in the Harmonized MHAS are expressed in nominal pesos while income and wealth measures in the RAND HRS are always expressed in nominal dollars. Users should always check the “Differences with RAND HRS/Harmonized HRS” section of each measure before comparing any Harmonized MHAS measure to the RAND HRS or Harmonized HRS version of the same measures or any other Harmonized Dataset version of the same measure.

## 1.5 Missing Values, Nonresponse and Imputations

Variables may contain missing values for several reasons. SAS, Stata, 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**

<b>Code</b>	<b>Reason for missing</b>
.	Reference person did not respond to this wave
.a	Age ineligible
.d	Don't know
.r	Refused
.k	No kids
.u	Reference person is not married (for spouse variables)
.v	Spouse did not respond this wave (for spouse variables)
.s	Information not available due to skip patterns
.m	Other missing

The coding scheme varies across variables. Consult the Data Codebook for details on individual variables.

Item nonresponse for many variables is handled by imputation. MHAS uses a multiple imputation technique, involving the regression sequencing method with a SAS-based software routine (IVEware) developed by researchers at the Survey Methodology Program, Survey Research Center, Institute for Social Research at the University of Michigan. Imputations were completed for economic variables such as income, assets, health care expenditures, and monetary help received. Please see the [2001](#), [2003](#), [2012](#), and [2015](#) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## 1.6. Availability of Stress Measures

In 2015, Drs. Elissa Epel and Wendy Mendes partnered with the Gateway to Global Aging Data team to form the Stress Measurement Network, funded by the National Institute on Aging (NIA/NIH R24 AG048024). The goal of the Stress Network is to promote better theory and measurement of psychosocial stress in population-based studies. One of the specific aims is to facilitate the use of stress measures in population based studies, which was led by Drs. Tara Gruenewald, Alexandra Crosswell, and Jinkook Lee. It is hoped that identification of such measures will facilitate examination of the association of stressor conditions with cognitive-affective and physiological distress experience and poor psychological and physical health states hypothesized to follow from stressor exposure.

As a result of the work of the NIA Stress Measurement Network, the Harmonized MHAS provides harmonized stress measures beginning in 2001, MHAS Wave 1, and through 2015, MHAS Wave 4. The majority of stress measures are available between MHAS Waves 2 and 3. The stress measures are collected in the core interview, both in the Social Support and Satisfaction module and in the Fertility module.

MHAS queried information on discrete events that can be categorized as major life stressors or traumatic events (e.g., death of a child). MHAS included 4 measures of social strain and relationship support quality. Common indicators of social strain include assessments of social relationship targets as having their feelings understood, the ability to confide in others, to rely on them for serious problems, and being disappointed when counting on others.

For more specific information about all stress measures included in the MHAS, as well as comparable stress measures in HRS sister studies, please refer to the Measures of Stress in the Health and Retirement Study (HRS) and the HRS Family of Studies (2020) user guide available from <https://g2aging.org/index.php?section=documentation>.

## 2. Wealth and Income Variables

### 2.1 Units of Observation and financial respondent

It is important to distinguish the unit of observation for MHAS financial measures because financial questions can be asked about the individual, the spouse, the individual and their spouse, and the full household.

For married or partnered couples, MHAS asks income and asset questions at the individual level (respondent or spouse) or at the couple level.

Pension questions are always asked to the financial respondent at the individual level.

The total consumption question is asked to the financial respondent about the full-household.

For harmonization purposes, we need to use the same unit of observation in the different harmonized data sets. For this reason, we combine the individual-level asset and income variables into couple-level variables for those variables for which the RAND HRS provides couple-level variables.

### 2.2. Currency

All MHAS financial variables are expressed in nominal pesos.

MHAS asset questions are asked about current asset values.

MHAS income questions use more than one type of timing. Some income questions ask for total income in the last 12 months and some questions ask for the average monthly income during the last 12 months. Even though MHAS uses different timings when asking income questions, for Harmonization purposes, all financial variables in the Harmonized MHAS are expressed in yearly equivalents. These income variables expressed in yearly equivalents can be compared to the RAND HRS income measures.

### 2.3. Differences between Harmonized MHAS and RAND HRS or Harmonized HRS

Harmonized MHAS is intended to be as comparable to the RAND HRS and Harmonized HRS as possible. See Bugliari et al. (2021) for the documentation of the RAND HRS and Beaumaster et al. (2018) for the documentation of the Harmonized HRS. However, there inevitably remain some differences between the two data sets. In the codebook, notable differences in definition, construction, or question text between the variables in Harmonized MHAS and the corresponding variables in the RAND HRS or Harmonized HRS are indicated on a per variable basis. For a full list of those RAND HRS or Harmonized HRS measures which are not available in the Harmonized MHAS see <http://g2aging.org>.

Furthermore, the imputation flags in the Harmonized MHAS are different from the imputation flags in the RAND HRS. This is because the imputation flags in the RAND HRS categorize the imputed values by the amount of information used in the imputation procedure (e.g. whether information from an unfolding bracket

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sequence, whether bracket was complete or incomplete bracket). The imputation flags in the Harmonized MHAS only identify whether the values was imputed or not

### 3. Structure of Codebook

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

Self-Report of Health ← 1				
Wave	Variable	Label		Type
2 →	R1SHLT	R1SHLT:W1	Self-report of health	Categ
	2 R2SHLT	R2SHLT:W2	Self-report of health	Categ
	3 R3SHLT	R3SHLT:W3	Self-report of health	Categ
3 →	4 R4SHLT	R4SHLT:W4	Self-report of health	Categ
	1 S1SHLT	S1SHLT:W1	Self-report of health	Categ
	2 S2SHLT	S2SHLT:W2	Self-report of health	Categ
	3 S3SHLT	S3SHLT:W3	Self-report of health	Categ
	4 S4SHLT	S4SHLT:W4	Self-report of health	Categ

#### 5 → Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SHLT	14147	3.69	0.85	1.00	5.00
R2SHLT	12521	3.78	0.82	1.00	5.00
R3SHLT	14445	3.66	0.85	1.00	5.00
R4SHLT	13847	3.73	0.83	1.00	5.00
S1SHLT	9983	3.66	0.85	1.00	5.00
S2SHLT	8739	3.76	0.81	1.00	5.00
S3SHLT	9864	3.64	0.84	1.00	5.00
S4SHLT	9181	3.71	0.83	1.00	5.00

#### 6 → Categorical Variable Codes

Value-----	R1SHLT	R2SHLT	R3SHLT	R4SHLT
.d:DK	1	4	1	3
.m:Oth missing	4			
.p:Proxy interview	1032	1178	1275	929
.r:Refuse	2	1	2	
1.Excellent	271	189	363	342
2.Very good	627	396	646	465
3.Good	4495	3559	4303	3710
4.Fair	6585	6204	7316	7347
5.Poor	2169	2173	1817	1983

Value-----	S1SHLT	S2SHLT	S3SHLT	S4SHLT
.d:DK	1	4	1	1
.m:Oth missing	3			
.p:Proxy interview	660	821	726	470
.r:Refuse	1		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Excellent	195	122	251	232
2.Very good	464	281	467	325
3.Good	3316	2583	2987	2513
4.Fair	4600	4346	5017	4905
5.Poor	1408	1407	1142	1206

#### 7 → How Constructed

RwSHLT is the respondent's self-reported general health status using the following scale: 1 for Excellent, 2 for Very good, 3 for Good, 4 for Fair, and 5 for Poor. When respondents don't know or refuse to answer, RwSHLT is assigned special missing values .d or .r, respectively. Other missing

responses are assigned special missing .m. Also RWSHLT is set to the special missing .p if the current interview was completed by proxy. RWSHLT is assigned plain missing (.) if the respondent did not participate in the current wave.

The SwSHLT variables are taken from the Wave 'w' spouse's self-reported RWSHLT variables. In addition to the special missing codes used in RWSHLT, SwSHLT employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### 8 → Cross-Wave Differences in MHAS

No differences known.

### 9 → Differences with the RAND HRS/Harmonized HRS

No differences known.

### 10 → MHAS Variables Used

Wave 1:		
	C1	quality of health
Wave 2:		
	C1	health status
Wave 3:		
	C1_12	Global self-reported quality of health
Wave 4:		
	C1_15	respondent's self-reported health

1 *Title:* The variables are documented in groups according to the concept that they measure. For example, there are eight variables related to self-reported health, corresponding to four waves and respondent/spouse. The title is often followed by a short description of the concept that is captured.

2 *Variable Names:* This entry shows the waves of variables in the group. Not all waves are present for all variables.

3 *Variable Labels:* This entry shows the Stata variable labels. As discussed above, the labels typically include the name of the variable, the file on which it is present, and a description of its contents.

4 *Variable Type:* This entry indicates the type of variable. It may be continuous (Cont), categorical (Categ), or character (Char).

5 *Descriptive Statistics:* This entry shows descriptive statistics on each variable. They include the number of nonmissing values, the mean, standard deviation, minimum value, and maximum value.



- 6 *Categorical Value Codes*: 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.
- 7 *How Constructed*: This entry provides background on the manner in which variables were constructed.
- 8 *Cross-Wave Differences in MHAS*: This entry briefly describes differences in question wording or content between interview waves.
- 9 *Differences with the RAND HRS/Harmonized HRS*: This entry describes any differences between the RAND HRS or Harmonized HRS version of the variable and the Harmonized MHAS version of the variable. It is imperative these differences are understood when using harmonized measures.
- 10 *MHAS Variables Used*: This entry provides the names and labels of raw MHAS variables that were used to construct the new variables.

## 4. Distribution and Technical Notes

The Harmonized MHAS Data file is distributed by the Mexican Health and Aging Study. The Harmonized MHAS Data file is made available free of charge but only to users who register with MHAS and agree to the standard conditions. For more information on obtaining access to the MHAS data visit:

<http://www.mhasweb.org/DataDocumentationNew.aspx> and select the Data tab on the top, and then Constructed/Harmonized on the right side of the page.

This is version **B.2** of the Harmonized MHAS Data.

A copy of the Stata programs used to create the Harmonized MHAS and a copy of this Harmonized MHAS Codebook can be obtained on the Gateway to Global Aging Data (<http://g2aging.org>) under the Download page or from the MHAS website (<http://www.mhasweb.org>).

## **5. Data Codebook**

## **Section A: Demographics, Identifiers, and Weights**

<b>Person Specific Identifier</b>
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Wave	Variable	Label	Type
1	CODENT01	Person identification code 2001 (=ps3)	Categ
1	CODENT03	Person identification code 2003 (=ent2)	Categ
1	PS3	Person identification code 2001 (=codent01)	Cont
1	ENT2	Person identification code 2003 (=codent03)	Cont
1	NP	Person Number/ Numero de Persona	Cont
1	UNHHIDNP	UNHHIDNP: Unique Person Identifier (HH ID + Person Number)/	Cont
1	RAHHIDNP	RAHHIDNP: Unique Person Identifier (HH ID + Person Number)/	Char
1	TIPENT_01	Type of interview 2001	Categ
1	TIPENT_03	Type of interview 2003	Categ
1	TIPENT_12	Type of interview 2012	Categ
1	TIPENT_15	Type of interview 2015	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
CODENT01	15365	1.36	0.48	1.00	2.00
CODENT03	15230	1.37	0.50	1.00	4.00
PS3	15365	1.36	0.48	1.00	2.00
ENT2	15230	1.37	0.50	1.00	4.00
NP	22016	13.73	4.82	10.00	24.00
UNHHIDNP	22016	766779.53	439791.32	110.00	1513020.00
TIPENT_01	15365	12.03	2.61	11.00	22.00
TIPENT_03	14366	13.19	5.35	11.00	42.00
TIPENT_12	18463	2.05	1.39	1.00	5.00
TIPENT_15	15985	1.46	1.13	1.00	5.00

### Categorical Variable Codes

Value-----	CODENT01
1.Selected person	9795
2.Spouse of selected person	5570
Value-----	CODENT03
1.Selected person in 2001	9653
2.Spouse of selected person in 2001	5477
3.New spouse of selected person in 2001	93
4.New spouse-of-spouse of selected perso	7
Value-----	TIPENT_01
11.Direct, first interview	9424
12.Direct, second interview	4909
21.Proxy, first interview	438
22.Proxy, second interview	594

Value-----	TIPENT_03
11.Direct, first interview	8465
12.Direct, second interview	4061
21.Proxy, first interview	457
22.Proxy, second interview	721
31.Next-of-kin interview, first interview	275
32.Next-of-kin interview, second interview	263
33.Next-of-kin interview, third interview	4
42.Non-response, second interview	120

Value-----	TIPENT_12
1.Direct, follow-up interview	8868
2.Direct, new sample interview	5580
3.Proxy, follow-up interview	959
4.Proxy, new sample interview	316
5.Next-of-kin	2740

Value-----	TIPENT_15
1.Direct, follow-up interview	13254
2.Direct, new spouse interview	596
3.Proxy, follow-up interview	884
4.Proxy, new spouse interview	45
5.Next-of-kin	1206

## How Constructed

At baseline, the unique person ID CODENT01 (also equal to PS3) is assigned to identify the selected individual and their spouses inside the household. In wave 2, a new unique person ID CODENT03 (also equal to ENT2) was created to identify the respondents inside the household. In addition to the 2 codes of CODENT01 from wave 1, two more codes were added to CODENT03 to identify the new spouse of the selected person in wave 1 and the new spouse of the spouse in wave 1.

Starting in 2012, a new variable NP was created to uniquely identify each person. Together, CUNICAH (also equal UNHHID) and NP uniquely identify each individual in the MHAS data. UNHHIDNP is the numeric value of the combination of CUNICAH and NP, and uniquely identify each respondent. The variable is set to CUNICAH\*100+NP. Also, RAHHIDNP is the 7-digit character version of the UNHHIDNP.

TIPENT\_01, TIPENT\_03, TIPENT\_12, TIPENT\_15, and TIPENT\_18 indicate the interview type for the corresponding wave and are necessary to merge certain MHAS data files in conjunction with other identifiers. TIPENT\_01 indicates the interview type for Wave 1 and is coded as follows: 11.Direct, first interview, 12.Direct, second interview, 21.Proxy, first interview, 22.Proxy, second interview. TIPENT\_03 indicates the interview type for Wave 2 and is coded as follows: 11.Direct, first interview, 12.Direct, second interview, 21.Proxy, first interview, 22.Proxy, second interview, 31.Next-of-kin interview, first interview, 32.Next-of-kin interview, second interview, 33.Next-of-kin interview, third interview, 42.Non-response, second interview. TIPENT\_12, TIPENT\_15, and TIPENT\_18 indicate the interview type for Waves 3, 4, and 5 and is coded as follows: 1.Direct, follow-up interview, 2.Direct, new sample interview, 3.Proxy, follow-up interview, 4.Proxy, new sample interview, 5.Next-of-kin. TIPENT\_15 indicates the interview type for Wave 4 and is coded as follows: 1.Direct, follow-up interview, 2.Direct, new spouse interview, 3.Proxy, follow-up interview, 4.Proxy, new spouse interview, 5.Next-of-kin.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

### Wave 1:

CODENT01	Person identification code 2001 (=ps3)
CUNICAH	Clave Unica del Hogar (=unhhid)
PS3	Person identification code 2001 (=codent01)
TIPENT_01	Type of interview 2001

### Wave 2:

ACTHOG	Update household code 2003
CODENT03	Person identification code 2003 (=ent2)
CUNICAH	Clave Unica del Hogar (=unhhid)

---

ENT2	Person identification code 2003 (=codent03)
TIPENT_03	Type of interview 2003
Wave 3:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
TIPENT_12	Type of interview 2012
Wave 4:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
TIPENT_15	Type of interview 2015

<b>Household Identifier</b>
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Wave	Variable	Label	Type
1	UNHHID	Clave Unica del Hogar (=cunicah)	Cont
1	CUNICAH	Clave Unica del Hogar (=unhhid)	Cont
1	H1HHID	h1hhid: w1 Unique Household Identifier (HH ID + SubHH)/ Num	Cont
2	H2HHID	h2hhid: w2 Unique Household Identifier (HH ID + SubHH)/ Num	Cont
3	H3HHID	h3hhid: w3 Unique Household Identifier (HH ID + SubHH)/ Num	Cont
4	H4HHID	h4hhid: w4 Unique Household Identifier (HH ID + SubHH)/ Num	Cont
1	H1HHIDC	h1hhidc: w1 Unique Household Identifier (HH ID + SubHH)/ 7-C	Char
2	H2HHIDC	h2hhidc: w2 Unique Household Identifier (HH ID + SubHH)/ 7-C	Char
3	H3HHIDC	h3hhidc: w3 Unique Household Identifier (HH ID + SubHH)/ 7-C	Char
4	H4HHIDC	h4hhidc: w4 Unique Household Identifier (HH ID + SubHH)/ 7-C	Char
1	ACTHOG	Update household code 2003	Char
1	SUBHOG_01	2001 sub-household identifier	Categ
1	SUBHOG_03	2003 sub-household identifier	Categ
1	SUBHOG_12	2012 sub-household identifier	Categ
1	SUBHOG_15	2015 sub-household identifier	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
UNHHID	22016	7667.66	4397.91	1.00	15130.00
CUNICAH	22016	7667.66	4397.91	1.00	15130.00
H1HHID	22016	76706.49	44013.23	10.00	151399.00
H2HHID	22016	76710.01	44008.56	11.00	151399.00
H3HHID	22016	76694.68	43974.11	11.00	151300.00
H4HHID	22016	76698.92	43970.36	21.00	151301.00
SUBHOG_01	22016	29.91	45.46	0.00	99.00
SUBHOG_03	22016	33.43	44.23	0.00	99.00
SUBHOG_12	22016	18.10	29.19	0.00	99.00
SUBHOG_15	22016	22.34	31.85	0.00	77.00

### Categorical Variable Codes

Value-----	SUBHOG_01
00.Baseline HH	15365
99.Not yet part of the study	6651
Value-----	SUBHOG_03
00.Baseline HH	385
01.No change, HH contains NP=010	13260
11.New HH contains NP=010	243
12.New HH contains NP=020	58
13.New HH contains NP=011	5
14.New HH contains NP=021	1
31.NP=010 Deceased	528
32.NP=020 Deceased	278
77.HH lost to follow-up/Not contacted	1113
99.Not yet part of the study	6145
Value-----	SUBHOG_12



00.Baseline HH	5754
01.No change, HH contains NP=010	8222
02.No change, HH contains NP=020	117
11.New HH contains NP=010	832
12.New HH contains NP=020	766
13.New HH contains NP=011	20
14.New HH contains NP=021	3
31.NP=010 Deceased	1938
32.NP=020 Deceased	790
33.NP=011 Deceased	12
70.NP=010 & NP=020 separated, reunited	4
71.Subsequent NP=010 HH separated, reunit	2
77.HH lost to follow-up/Not contacted	2765
88.Deceased before current wave	542
99.Not yet part of the study	249
Value-----	SUBHOG_15
00.Baseline HH	575
01.No change, HH contains NP=010	12324
02.No change, HH contains NP=020	91
11.New HH contains NP=010	1298
12.New HH contains NP=020	1095
13.New HH contains NP=011	20
14.New HH contains NP=021	7
15.New HH contains NP=012	29
31.NP=010 Deceased	793
32.NP=020 Deceased	400
33.NP=011 Deceased	11
34.NP=021 Deceased	2
70.NP=010 & NP=020 separated, reunited	44
77.HH lost to follow-up/Not contacted	5327

## How Constructed

HwHHID uniquely identifies a household in a given wave. HwHHID consists of the household identifier (CUNICAH=UNHHID)\*10 + the sub-household identifier (SUBHOG\_01 in wave 1, SUBHOG\_03 in wave 2, SUBHOG\_12 in wave 3, SUBHOG\_15 in wave 4, and SUBHOG\_18 in wave 5). The household identifier (CUNICAH) is a random sequential 5-digit number that ranges from 00001 to 11000 created to identify each household at baseline. After wave 3, CUNICAH was also assigned to the new refresher sample. The new sample was assigned a value starting from 11001 to identify each new household.

The set of sub-household variables (SUBHOG\_01, SUBHOG\_03, SUBHOG\_12, SUBHOG\_15, SUBHOG\_18) were created after the third wave and are all included in the 2012, 2015, and 2018 Master Follow-up file. The variables were created to follow the modifications of the original household and new households that result from household changes. These changes include: divorce/separation, death, or new spouse of the original subjects. The last two digits of the variable indicate the year of the respective wave. Also, the variable SUBHOG\_03 was created to replace the "updated household" ID (ACTHOG) used in 2003.

HwHHIDC is a 9-digit character version of HwHHID. HwHHIDC is created by exactly the same standards as HwHHID but is stored as a character.

## Cross Wave Differences in MHAS

The household code ACTHOG was created in 2003 to capture changes in the situation of the individual or couple interviewed in 2001. This variable is referred to as "updated household" and the codes reflect the type of change experienced, including divorce/separation, death, or new spouse. The updated-household codes also capture whether the household observed in 2003 contains the baseline sampled respondent, or the baseline spouse of the selected person. In 2003, the unique household identifier CUNICAH used in 2001 must be supplemented with ACTHOG to form the unique household identifier. These two variables, in combination with the person identifier for the 2003 given by CODENT03 (also called ENT2) serve as unique identifiers for the second wave.

In 2012 a set of sub-household IDs (SUBHOG\_XX) was introduced to follow the modifications of the original household and new households that result from household changes. The last two digits of the variable indicate the year of the respective survey. One variable has been created for each wave (SUBHOG01, SUBHOG03, SUBHOG12, SUBHOG\_15, SUBHOG\_18), each of them reflecting the changes in the household recorded for 2001, 2003, 2012, 2015 and 2018 respectively. This new identifier was created to replace the "updated household" ID (ACTHOG) used in 2003. The unique household identifier CUNICAH must be supplemented with SUBHOG\_03, SUBHOG\_12, SUBHOG\_15, and SUBHOG\_18 to form the unique household identifier for 2003, 2012, 2015, and 2018 respectively.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:		
	CUNICAH	Clave Unica del Hogar (=unhhid)
Wave 2:		
	ACTHOG	Update household code 2003
	CUNICAH	Clave Unica del Hogar (=unhhid)
Wave 3:		
	CUNICAH	Clave Unica del Hogar (=unhhid)
	SUBHOG_12	2012 sub-household identifier
Wave 4:		
	CUNICAH	Clave Unica del Hogar (=unhhid)
	SUBHOG_15	2015 sub-household identifier

**Spouse Identifier**

Wave Variable	Label	Type
1 S1HHIDNP	s1hhidnp: w1 S Unique Person Identifier	Cont
2 S2HHIDNP	s2hhidnp: w2 S Unique Person Identifier	Cont
3 S3HHIDNP	s3hhidnp: w3 S Unique Person Identifier	Cont
4 S4HHIDNP	s4hhidnp: w4 S Unique Person Identifier	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
S1HHIDNP	11075	548360.35	316747.65	110.00	1100020.00
S2HHIDNP	9945	547336.90	315189.55	110.00	1100020.00
S3HHIDNP	10592	860869.11	454646.53	110.00	1513020.00
S4HHIDNP	9863	881061.35	454348.75	210.00	1513020.00

**How Constructed**

Swhhidnp gives the UNHHIDNP of the spouse in Wave 'w'.

If there is no spouse in a given wave, Swhhidnp is set to zero. If Swhhidnp is unknown, and the marital status in a particular wave is either missing or married, Swhhidnp is set to a special missing code of .m. Swhhidnp is set to plain missing (.) for respondents who did not respond to the current wave.

**Cross Wave Differences in MHAS**

No differences known

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:	
CODENT01	Person identification code 2001 (=ps3)
CUNICAH	Clave Unica del Hogar (=unhhid)
PS3	Person identification code 2001 (=codent01)
Wave 2:	
ACTHOG	Update household code 2003
CODENT03	Person identification code 2003 (=ent2)
CUNICAH	Clave Unica del Hogar (=unhhid)
ENT2	Person identification code 2003 (=codent03)
Wave 3:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
Wave 4:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona

**Wave Status: Response Indicator**

Wave Variable	Label	Type
1 INW1	inw1: w1 Response Indicator	Categ
2 INW2	inw2: w2 Response Indicator	Categ
3 INW3	inw3: w3 Response Indicator	Categ
4 INW4	inw4: w4 Response Indicator	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
INW1	22016	0.69	0.46	0.00	1.00
INW2	22016	0.62	0.48	0.00	1.00
INW3	22016	0.71	0.45	0.00	1.00
INW4	22016	0.67	0.47	0.00	1.00

**Categorical Variable Codes**

Value-----	INW1	INW2	INW3	INW4
0.Non, resp	6830	8312	6293	7237
1.Resp, alive	15186	13704	15723	14779

**How Constructed**

These variables indicate whether an individual responded to a particular wave. INWw is derived from information in the MHAS master follow-up file. Respondents identified as having either a full or partial interview either in person or through a proxy are considered to have responded, without considering the order of the interview. Interviews for the deceased are not considered to have responded.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:	
TIPENT_01	Type of interview 2001
Wave 2:	
TIPENT_03	Type of interview 2003
Wave 3:	
TIPENT_12	Type of interview 2012
Wave 4:	
TIPENT_15	Type of interview 2015

**Wave Status: Interview Status**

Wave Variable	Label	Type
1 R1IWSTAT	r1iwstat: w1 R Interview Status	Categ
2 R2IWSTAT	r2iwstat: w2 R Interview Status	Categ
3 R3IWSTAT	r3iwstat: w3 R Interview Status	Categ
4 R4IWSTAT	r4iwstat: w4 R Interview Status	Categ
1 S1IWSTAT	s1iwstat: w1 S Interview Status	Categ
2 S2IWSTAT	s2iwstat: w2 S Interview Status	Categ
3 S3IWSTAT	s3iwstat: w3 S Interview Status	Categ
4 S4IWSTAT	s4iwstat: w4 S Interview Status	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IWSTAT	22016	0.72	0.55	0.00	4.00
R2IWSTAT	22016	1.01	1.42	0.00	9.00
R3IWSTAT	22016	1.79	1.87	0.00	9.00
R4IWSTAT	22016	1.45	1.70	0.00	9.00
S1IWSTAT	11075	1.02	0.45	0.00	4.00
S2IWSTAT	9945	1.14	0.71	0.00	5.00
S3IWSTAT	10592	1.00	0.00	1.00	1.00
S4IWSTAT	9863	1.12	0.83	0.00	9.00

**Categorical Variable Codes**

Value-----	R1IWSTAT	R2IWSTAT	R3IWSTAT	R4IWSTAT
0.Inap	6651	6786	1842	4043
1.Resp, alive	15186	13704	15723	14682
4.NR, alive	179	597	657	613
5.NR, died this wave		563	2867	1891
6.NR, died prev wave			563	563
9.NR, dk if alive or died		366	364	224

Value-----	S1IWSTAT	S2IWSTAT	S3IWSTAT	S4IWSTAT
.u:Unmar	4040	3752	4782	4844
.v:SP NR	71	7	349	72
0.Inap	358	1		6
1.Resp, alive	10506	9561	10592	9616
4.NR, alive	211	128		155
5.NR, died this wave		255		1
9.NR, dk if alive or died				85

**How Constructed**

The R4IWSTAT variable gives the response and mortality status of the respondent at each wave. Respondents are identified by code 1, non-respondents are identified by codes 4-6 and 9.

Mortality status is taken from the Follow-up Master File. Known alive and presumed alive are both treated as indication that the respondent is living. Non-response code 4 means that the respondent is alive so far as we know but did not respond. A code of 5 means that the respondent died between the last interview and the current one, and 6 means that the respondent had died before a previous wave. A code of 9 means that we don't know if the individual is alive or not.

S4IWSTAT gives the response and mortality status of the current wave's spouse. It is taken from the spouse's R4IWSTAT. Note that when a spouse dies the spouse interview status for the surviving spouse will have a code of .u respondent unmarried if the widow does not remarry. A .v missing code indicates that there is no information in the Master file on why the spouse did not respond. Note also that S4IWSTAT is set to plain missing (.) if an individual did not respond at a particular interview, including if he/she died.

**Cross Wave Differences in MHAS**

No differences known.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

Wave 1:	
TIPNE_01	Type of household non-interview 2001
Wave 2:	
TIPNE_03	Type of non-interview 2003
Wave 3:	
TIPNE_12	Type of non-interview 2012
Wave 4:	
TIPNE_15	Type of non-interview 2015

<b>Sample Cohort</b>
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Wave Variable	Label	Type
1 HACOHORT	HACOHORT: Sample Cohort	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
HACOHORT	22016	1.29	0.45	1.00	2.00

**Categorical Variable Codes**

Value-----	HACOHORT
Baseline sample	15696
2012 Refresher sample	6320

**How Constructed**

HACOHORT identifies the cohort in which the household was originally sampled. HACOHORT is assigned a 1 if the household was sampled with the original cohort in Wave 1 (2001). HACOHORT is assigned a 2 if the household was added to the sample in Wave 3 (2012) and a 3 if the household was added to the sample in Wave 5 (2018)

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:	
TIPNE_01	Type of household non-interview 2001
Wave 2:	
TIPNE_03	Type of non-interview 2003
Wave 3:	
NEW_SAMPLE_12	Follow-up and new sample 2012
Wave 4:	
NEW_SAMPLE_15	Follow-up and new sample/spouses 2015

<b>Whether Proxy Interview</b>
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Wave	Variable	Label	Type
1	R1PROXY	r1proxy: w1 R Whether Proxy Interview	Categ
2	R2PROXY	r2proxy: w3 R Whether Proxy Interview	Categ
3	R3PROXY	r3proxy: w3 R Whether Proxy Interview	Categ
4	R4PROXY	r4proxy: w4 R Whether Proxy Interview	Categ
1	S1PROXY	s1proxy: w1 S Whether Proxy Interview	Categ
2	S2PROXY	s2proxy: w2 S Whether Proxy Interview	Categ
3	S3PROXY	s3proxy: w3 S Whether Proxy Interview	Categ
4	S4PROXY	s4proxy: w4 S Whether Proxy Interview	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PROXY	15186	0.07	0.25	0.00	1.00
R2PROXY	13704	0.09	0.28	0.00	1.00
R3PROXY	15723	0.08	0.27	0.00	1.00
R4PROXY	14779	0.06	0.24	0.00	1.00
S1PROXY	10648	0.06	0.24	0.00	1.00
S2PROXY	9564	0.09	0.28	0.00	1.00
S3PROXY	10592	0.07	0.25	0.00	1.00
S4PROXY	9652	0.05	0.22	0.00	1.00

### Categorical Variable Codes

Value-----	R1PROXY	R2PROXY	R3PROXY	R4PROXY
0.Not proxy	14154	12526	14448	13850
1.Proxy	1032	1178	1275	929
Value-----	S1PROXY	S2PROXY	S3PROXY	S4PROXY
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.Not proxy	9988	8743	9866	9182
1.Proxy	660	821	726	470

### How Constructed

RwPROXY is set to 1 if the interview is by proxy in the current wave. A code of 0 is used if the respondent was not a proxy and a code of 1 is used when the interview was completed by proxy. RwPROXY is set to plain missing (.) for respondents who did not respond to the current wave.

SwPROXY indicates whether the current wave's spouse's interview is by proxy. It is taken from the spouse's RwPROXY. Special missing value .u is used when the respondent does not report being coupled in the current wave. Special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

Wave 1:	TIPENT_01	Type of interview 2001
Wave 2:	TIPENT_03	Type of interview 2003
Wave 3:		



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TIPENT_12	Type of interview 2012
Wave 4:	
TIPENT_15	Type of interview 2015

## Number of Household Respondents

Wave	Variable	Label	Type
1	H1HHRESP	h1hhresp: w1 # Core Respondents in hh	Cont
2	H2HHRESP	h2hhresp: w2 # Core Respondents in hh	Cont
3	H3HHRESP	h3hhresp: w3 # Core Respondents in hh	Cont
4	H4HHRESP	h4hhresp: w4 # Core Respondents in hh	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1HHRESP	15186	1.70	0.46	1.00	2.00
H2HHRESP	13704	1.70	0.46	1.00	2.00
H3HHRESP	15723	1.67	0.47	1.00	2.00
H4HHRESP	14779	1.65	0.48	1.00	2.00

**How Constructed**

HwHHRESP is the number of individuals in the household who actually responded at each wave. It counts the number of respondents sharing the same household ID. It counts the respondent and spouse, if any and if the spouse responded, taking on a value of 1 or 2. Individuals with a value greater than zero for INWw are counted by wave-specific household that is by household ID (CUNICAH/UNHHID) and sub-household ID (ACTHOG in wave 2 and SUBHOG\_12 in wave 3). HwHHRESP is set to plain missing (.) for respondents who did not respond to the current wave.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:	TIPENT_01	Type of interview 2001
Wave 2:	TIPENT_03	Type of interview 2003
Wave 3:	TIPENT_12	Type of interview 2012
Wave 4:	TIPENT_15	Type of interview 2015

<b>Whether Couple Household</b>
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Wave	Variable	Label	Type
1	H1CPL	h1cpl: w1 Whether a Couple hh	Categ
2	H2CPL	h2cpl: w2 Whether a Couple hh	Categ
3	H3CPL	h3cpl: w3 Whether a Couple hh	Categ
4	H4CPL	h4cpl: w4 Whether a Couple hh	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CPL	15186	0.70	0.46	0.00	1.00
H2CPL	13704	0.70	0.46	0.00	1.00
H3CPL	15723	0.67	0.47	0.00	1.00
H4CPL	14779	0.65	0.48	0.00	1.00

**Categorical Variable Codes**

Value	H1CPL	H2CPL	H3CPL	H4CPL
0.No	4538	4140	5131	5127
1.Yes	10648	9564	10592	9652

**How Constructed**

HwCPL indicates whether the respondent is treated as coupled or not. HwCPL is set to one if the respondent is coupled with another respondent in the current wave. HwCPL is set to zero if the respondent is not coupled with any other respondent in the current wave. HwCPL is set to plain missing (.) for respondents who did not respond to the current wave.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:	TIPENT_01	Type of interview 2001
Wave 2:	TIPENT_03	Type of interview 2003
Wave 3:	TIPENT_12	Type of interview 2012
Wave 4:	TIPENT_15	Type of interview 2015

<b>Household Analysis Weight</b>
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Wave	Variable	Label	Type
1	R1WTHH	r1wthh: w1 Household Analysis Weight	Cont
2	R2WTHH	r2wthh: w2 Household Analysis Weight	Cont
3	R3WTHH	r3wthh: w3 Household Analysis Weight	Cont
4	R4WTHH	r4wthh: w4 Household Analysis Weight	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WTHH	15365	1014.49	1578.44	16.00	35360.00
R2WTHH	15479	903.19	1733.85	0.00	46315.00
R3WTHH	20561	1413.93	2843.15	0.00	72628.00
R4WTHH	17616	1515.74	2778.25	0.00	51137.00

### How Constructed

RwWTHH is the household analysis weight. The household weights are taken directly from household weights, FACTORH, in the MHAS Follow-up Master File. The MHAS household weights are based on the sample design and sample selection criteria, and the calibration variables of all community dwelling households with at least one resident 50 years or older, based on the household composition, and the place of residence (urban and rural areas) and geographic areas.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

Wave 1:	FACTORH_01	Household weight 2001
Wave 2:	FACTORH_03	Household weight 2003
Wave 3:	FACTORH_12	Household weight 2012
Wave 4:	FACTORH_15	Household weight 2015

**Person-Level Analysis Weight**

Wave	Variable	Label	Type
1	R1WTRESP	r1wtresp: w1 R Person-Level Analysis Weight	Cont
2	R2WTRESP	r2wtresp: w2 R Person-Level Analysis Weight	Cont
3	R3WTRESP	r3wtresp: w3 R Person-Level Analysis Weight	Cont
4	R4WTRESP	r4wtresp: w4 R Person-Level Analysis Weight	Cont
1	S1WTRESP	s1wtresp: w1 S Person-Level Analysis Weight	Cont
2	S2WTRESP	s2wtresp: w2 S Person-Level Analysis Weight	Cont
3	S3WTRESP	s3wtresp: w3 S Person-Level Analysis Weight	Cont
4	S4WTRESP	s4wtresp: w4 S Person-Level Analysis Weight	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WTRESP	15365	950.58	1688.14	0.00	44177.00
R2WTRESP	15479	909.73	1748.52	0.00	46315.00
R3WTRESP	20561	1394.63	3047.83	0.00	97546.00
R4WTRESP	17616	1281.11	2662.61	0.00	90984.00
S1WTRESP	10864	868.58	1499.98	0.00	29742.00
S2WTRESP	9945	922.69	1634.30	0.00	33620.00
S3WTRESP	10592	1654.21	3316.51	0.00	97546.00
S4WTRESP	9863	1434.40	2690.97	0.00	43969.00

**How Constructed**

RwWTRESP is the person-level analysis weight. The person-level weights are taken directly from individual weights, FACTORI, in the MHAS Follow-up Master File. The MHAS person-level weights are based on the birth cohort, household composition, and the place of residence (in urban and rural areas) and geographic areas. Wave 1 and wave 2 weights were calibrated for the baseline sample, and are only generated for age-eligible respondents. All selected respondents who are not age-eligible are assigned 0 as the weight. At baseline, the calibration was based on the size of the Mexican population of individuals born prior to 1951, that is, the population aged 50 or older as of 2001. In wave 3, the sample was refreshed adding a representative sample of the population from the 1952-1962 birth cohort as well as their spouses/partners regardless of age. The wave 3 and 4 weights were assigned to the new age-eligible respondents as well, and were calibrated to represent the population aged 50 or older as of 2012. In wave 5, the sample was refreshed adding a representative sample of the population from the 1963-1968 birth cohort as well as their spouses/partners regardless of age. The wave 5 weights were assigned to the new age-eligible respondents, and were calibrated to represent the population aged 50 or older as of 2018.

SwWTRESP is the current wave's spouse's person-level analysis weight. It is taken directly from the spouse's RwWTRESP. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:		
	FACTORI_01	Person weight 2001
Wave 2:		
	FACTORI_03	Person weight 2003
Wave 3:		
	FACTORI_12	Individual weight 2012

Wave 4:

FACTORI\_15      Individual weight 2015

<b>Interview Dates</b>
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Wave	Variable	Label	Type
1	R1IWM	r1iwm: w1 R Interview Month	Cont
2	R2IWM	r2iwm: w2 R Interview Month	Cont
3	R3IWM	r3iwm: w3 R Interview Month	Cont
4	R4IWM	r4iwm: w4 R Interview Month	Cont
1	S1IWM	s1iwm: w1 S Interview Month	Cont
2	S2IWM	s2iwm: w2 S Interview Month	Cont
3	S3IWM	s3iwm: w3 S Interview Month	Cont
4	S4IWM	s4iwm: w4 S Interview Month	Cont
1	R1IWY	r1iwy: w1 R Interview Year	Cont
2	R2IWY	r2iwy: w2 R Interview Year	Cont
3	R3IWY	r3iwy: w3 R Interview Year	Cont
4	R4IWY	r4iwy: w4 R Interview Year	Cont
1	S1IWY	s1iwy: w1 S Interview Year	Cont
2	S2IWY	s2iwy: w2 S Interview Year	Cont
3	S3IWY	s3iwy: w3 S interview Year	Cont
4	S4IWY	s4iwy: w4 S interview Year	Cont
1	R1IWF	r1iwf: w1 R Interview Date Flag	Categ
2	R2IWF	r2iwf: w1 R Interview Date Flag	Categ
3	R3IWF	r3iwf: w3 R Interview Date Flag	Categ
4	R4IWF	r4iwf: w4 R Interview Date Flag	Categ
1	S1IWF	s1iwf: w1 S Interview Date Flag	Categ
2	S2IWF	s2iwf: w2 S Interview Date Flag	Categ
3	S3IWF	s3iwf: w3 S Interview Date Flag	Categ
4	S4IWF	s4iwf: w4 S Interview Date Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IWM	15186	6.51	0.82	1.00	10.00
R2IWM	13704	6.75	0.70	6.00	9.00
R3IWM	15714	10.59	0.64	1.00	12.00
R4IWM	14779	10.63	0.59	10.00	12.00
S1IWM	10648	6.54	0.82	1.00	10.00
S2IWM	9564	6.76	0.69	6.00	9.00
S3IWM	10584	10.58	0.62	1.00	12.00
S4IWM	9652	10.63	0.58	10.00	12.00
R1IWY	15186	2001.00	0.00	2001.00	2001.00
R2IWY	13704	2003.00	0.00	2003.00	2003.00
R3IWY	15711	2012.00	0.03	2012.00	2013.00
R4IWY	14779	2015.00	0.00	2015.00	2015.00
S1IWY	10648	2001.00	0.00	2001.00	2001.00
S2IWY	9564	2003.00	0.00	2003.00	2003.00
S3IWY	10581	2012.00	0.03	2012.00	2013.00
S4IWY	9652	2015.00	0.00	2015.00	2015.00
R1IWF	15186	0.00	0.00	0.00	0.00
R2IWF	13704	0.00	0.00	0.00	0.00
R3IWF	15723	0.00	0.06	0.00	2.00
R4IWF	14779	0.00	0.00	0.00	0.00
S1IWF	10648	0.00	0.00	0.00	0.00
S2IWF	9564	0.00	0.00	0.00	0.00
S3IWF	10592	0.00	0.06	0.00	2.00
S4IWF	9652	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1IWF	R2IWF	R3IWF	R4IWF
0.m/y ok	15186	13704	15711	14779
2.mon/yr miss			12	
Value-----	S1IWF	S2IWF	S3IWF	S4IWF
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.m/y ok	10648	9564	10581	9652
2.mon/yr miss			11	

## How Constructed

These variables are derived from the reported month and year when the interview took place. R1IWF and R1IWY indicate the interview month and year, respectively. R2IWF and R2IWY are set to plain missing (.) for respondents who did not respond to the current wave.

S1IWF and S1IWY indicate the current wave's spouse's interview month and year, respectively. They are taken from the spouse's R2IWF and R2IWY, respectively. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

R1IWF flags interview dates when information on either month or year is missing. A code of 0 indicates that information on both month and year was correct. A code of 1 indicates that the interview month was not available. A code of 2 indicates that the interview year was missing, possibly in addition to a missing interview month. R1IWF is set to plain missing (.) for respondents who did not respond to the current wave.

S1IWF flags the current wave's spouse's interview date. It is taken from the spouse's R2IWF. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, MHAS does not mark interviews with beginning and ending dates. Instead, MHAS provides information down to the year, month, and day when the interview was completed. Thus, unlike in the RAND HRS where interview dates are derived as midpoint between the reported beginning and ending dates, there are no midpoint calculations for the interview date variables in the Harmonized MHAS.

## MHAS Variables Used

Wave 1:		
PS31_1	day of interview	
Wave 2:		
ENT4_2	month of interview	
Wave 3:		
INT_DATE_12	Interview date 2012	
Wave 4:		
INT_DATE_15	Interview date 2015	



**Birth Date: Month and Year**

Wave	Variable	Label	Type
1	RABYEAR	rabyear: R Birth Year	Cont
1	S1BYEAR	s1byear: w1 S Birth Year	Cont
2	S2BYEAR	s2byear: w2 S Birth Year	Cont
3	S3BYEAR	s3byear: w3 S Birth Year	Cont
4	S4BYEAR	s4byear: w4 S Birth Year	Cont
1	RABMONTH	rabmonth: R Birth Month	Cont
1	S1BMONTH	s1bmonth: w1 S Birth Month	Cont
2	S2BMONTH	s2bmonth: w2 S Birth Month	Cont
3	S3BMONTH	s3bmonth: w3 S Birth Month	Cont
4	S4BMONTH	s4bmonth: w4 S Birth Month	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
RABYEAR	21973	1945.07	12.70	1895.00	1992.00
S1BYEAR	10648	1941.83	10.08	1895.00	1982.00
S2BYEAR	9846	1941.68	9.95	1895.00	1982.00
S3BYEAR	10578	1949.99	10.19	1898.00	1992.00
S4BYEAR	9815	1950.87	9.72	1913.00	1992.00
RABMONTH	21831	6.51	3.42	1.00	12.00
S1BMONTH	10596	6.45	3.40	1.00	12.00
S2BMONTH	9791	6.45	3.41	1.00	12.00
S3BMONTH	10567	6.51	3.43	1.00	12.00
S4BMONTH	9716	6.51	3.43	1.00	12.00

**How Constructed**

RABYEAR is the respondent's reported birth year. RABMONTH is the respondent's reported month of birth. RABYEAR and RABMONTH are taken from the first non-missing value of birth data.

SwBYEAR and SwBMONTH indicate the current wave's spouse's birth year and month, respectively. They are taken from the spouse's RABYEAR and RABMONTH. If the respondent is not designated as coupled in the current wave and assumed to be single a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married a special missing value of .v is used.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

Unlike the HRS, the MHAS asked the respondent's birthdate only during the first interview. However starting in wave 3, follow-up respondents were asked: "During the last interview, you said your birth date was \_\_. Is this correct?". Respondents' could indicate whether the date was correct or not, and were allowed to correct the information provided.

**MHAS Variables Used**

Wave 1:

A1\_2 month of birth  
A1\_3 year of birth

Wave 2:

AA2\_2 dob - month  
AA2\_3 dob - year

## Wave 3:

A2A2_2_12	Correct month of birth
A2A2_3_12	Correct year of birth
AA2_2_12	Month of birth
AA2_3_12	Year of birth

## Wave 4:

A2A1_15	Respondent's original stated birthday - Correct
A2A2_3_15	Correct year of birth
A2A2_3_15	Correct year of birth
AA2_2_15	Month of birth
AA2_3_15	Year of birth

**Death Date: Month and Year**

Wave	Variable	Label	Type
1	RADYEAR	radyear: R Death Year	Cont
1	S1DYEAR	s1dyear: w1 S Death Year	Cont
2	S2DYEAR	s2dyear: w2 S Death Year	Cont
3	S3DYEAR	s3dyear: w3 S Death Year	Cont
4	S4DYEAR	s4dyear: w4 S Death Year	Cont
1	RADMONTH	radmonth: R Death Month	Cont
1	S1DMONTH	s1dmonth: w1 S Death Month	Cont
2	S2DMONTH	s2dmonth: w2 S Death Month	Cont
3	S3DMONTH	s3dmonth: w3 S Death Month	Cont
4	S4DMONTH	s4dmonth: w4 S Death Month	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
RADYEAR	5545	2010.36	4.90	2001.00	2018.00
S1DYEAR	3324	2010.41	4.87	2001.00	2018.00
S2DYEAR	3136	2010.41	4.85	2001.00	2018.00
S3DYEAR	1163	2015.33	1.75	2010.00	2018.00
S4DYEAR	542	2016.80	0.93	2015.00	2018.00
RADMONTH	5446	6.61	3.54	1.00	12.00
S1DMONTH	3277	6.60	3.54	1.00	12.00
S2DMONTH	3092	6.57	3.53	1.00	12.00
S3DMONTH	1161	6.55	3.59	1.00	12.00
S4DMONTH	539	6.50	3.57	1.00	12.00

**How Constructed**

RADYEAR is the respondent's reported death year. RADMONTH is the respondent's reported month of death.

RADYEAR and RADMONTH are based on questions asked as part of the Next-of-Kin interview asked at each wave starting with Wave 2. The Next-of-Kin interview is conducted in the case the subject is reported no longer alive.

RADYEAR and RADMONTH are assigned special missing values .d or .r, if Don't know or Refused, respectively. In Wave 2, RADYEAR and RADMONTH are also assigned the special missing value .s if the date of death question is skipped; that is if the cause of death was "Accident or violence" or "Other Cause" (and not from sickness). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwDYEAR and SwDMONTH indicate the spouse's death year and month. They are taken from the respondent's spouse's RADYEAR and RADMONTH. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

In Wave 2, the date of death question is skipped if the reported cause of death was "Accident or violence" or "Other Cause" (and not from sickness).

Starting in Wave 3, date of death was in all these cases asked.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 2:

SA8A_1	when did (name) die - month
SA8A_2	when did (name) die - year

Wave 3:

SA8_1_12	Month deceased passed away
SA8_2_12	Year deceased passed away

Wave 4:

SA8_1_15	Month deceased passed away
SA8_2_15	Year deceased passed away

<b>Age at Interview (Months and Years)</b>
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Wave	Variable	Label	Type
1	R1AGEY	r1agey: w1 R Age (years) at ivw	Cont
2	R2AGEY	r2agey: w2 R Age (years) at ivw	Cont
3	R3AGEY	r3agey: w3 R Age (years) at ivw	Cont
4	R4AGEY	r4agey: w4 R Age (years) at ivw	Cont
1	S1AGEY	s1agey: w1 S Age (years) at ivw	Cont
2	S2AGEY	s2agey: w2 S Age (years) at ivw	Cont
3	S3AGEY	s3agey: w3 S Age (years) at ivw	Cont
4	S4AGEY	s4agey: w4 S Age (years) at ivw	Cont
1	R1AGEM	r1agem: w1 R Age (months) at ivw	Cont
2	R2AGEM	r2agem: w2 R Age (months) at ivw	Cont
3	R3AGEM	r3agem: w3 R Age (months) at ivw	Cont
4	R4AGEM	r4agem: w4 R Age (months) at ivw	Cont
1	S1AGEM	s1agem: w1 S Age (months) at ivw	Cont
2	S2AGEM	s2agem: w2 S Age (months) at ivw	Cont
3	S3AGEM	s3agem: w3 S Age (months) at ivw	Cont
4	S4AGEM	s4agem: w4 S Age (months) at ivw	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1AGEY	15128	60.81	10.80	18.00	106.00
R2AGEY	13621	62.71	10.47	21.00	108.00
R3AGEY	15692	64.01	11.04	20.00	110.00
R4AGEY	14692	66.21	10.60	23.00	113.00
S1AGEY	10610	58.72	10.04	18.00	106.00
S2AGEY	9513	60.67	9.77	21.00	108.00
S3AGEY	10572	61.86	10.11	20.00	98.00
S4AGEY	9582	64.07	9.71	23.00	101.00
R1AGEM	15128	735.17	129.45	227.00	1277.00
R2AGEM	13621	757.86	125.55	252.00	1301.00
R3AGEM	15692	773.69	132.43	243.00	1327.00
R4AGEM	14692	800.05	127.22	283.00	1363.00
S1AGEM	10610	710.06	120.39	227.00	1277.00
S2AGEM	9513	733.40	117.13	252.00	1301.00
S3AGEM	10572	747.90	121.31	243.00	1186.00
S4AGEM	9582	774.32	116.56	283.00	1223.00

### How Constructed

RwAGEM is the respondent's age in months at the time of the current wave's interview. Respondent's age is calculated as the difference between the interview date (RwIW) and the respondents' date of birth (RABDATE). RwAGEY is the respondent's age in years at the time of the current wave's interview. Age in years is the integer portion of the number of months old divided by 12. RwAGEY and RwAGEM are assigned special missing values .d or .r, respectively, if respondents don't know or refuse to answer the date of birth or if the interview data is missing. RwAGEY and RwAGEM are also assigned .i if the year of birth is not valid. RwAGEY and RwAGEM are set to plain missing (.) for respondents who did not respond to any waves.

SwAGEY and SwAGEM are the current spouse's age in years and month, respectively, at the time of the current wave's interview. They are taken from the spouse's RwAGEY and RwAGEM, respectively. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not mark interviews with beginning and ending dates. Instead, MHAS provides information down to the year, month, and day when the interview took place. Thus, unlike in the RAND HRS where interview dates are derived as midpoint between the reported beginning and ending dates, there are no midpoint calculations for the interview date variables in Harmonized MHAS.

### MHAS Variables Used

#### Wave 1:

A1_2	month of birth
A1_3	year of birth
PS31_2	month of interview

#### Wave 2:

AA2_2	dob - month
AA2_3	dob - year
ENT4_2	month of interview

#### Wave 3:

A2A2_2_12	Correct month of birth
A2A2_3_12	Correct year of birth
AA2_2_12	Month of birth
AA2_3_12	Year of birth
INT_DATE_12	Interview date 2012

#### Wave 4:

A2A2_2_15	Correct month of birth
A2A2_3_15	Correct year of birth
AA2_2_15	Month of birth
AA2_3_15	Year of birth
INT_DATE_15	Interview date 2015

<b>Gender</b>
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Wave	Variable	Label	Type
1	RAGENDER	ragender: R Gender	Categ
1	S1GENDER	s1gender: w1 S Gender	Categ
2	S2GENDER	s2gender: w2 S Gender	Categ
3	S3GENDER	s3gender: w3 S Gender	Categ
4	S4GENDER	s4gender: w4 S Gender	Categ
2	R2GENDERF	r2genderf: w2 R Gender Report Update Flag	Categ
3	R3GENDERF	r3genderf: w3 R Gender Report Update Flag	Categ
4	R4GENDERF	r4genderf: w4 R Gender Report Update Flag	Categ
2	S2GENDERF	s2genderf: w2 S Gender Report Update Flag	Categ
3	S3GENDERF	s3genderf: w3 S Gender Report Update Flag	Categ
4	S4GENDERF	s4genderf: w4 S Gender Report Update Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAGENDER	22016	1.56	0.50	1.00	2.00
S1GENDER	10864	1.50	0.50	1.00	2.00
S2GENDER	9940	1.49	0.50	1.00	2.00
S3GENDER	10592	1.50	0.50	1.00	2.00
S4GENDER	9823	1.50	0.50	1.00	2.00
R2GENDERF	20241	0.00	0.00	0.00	0.00
R3GENDERF	16364	0.00	0.01	0.00	1.00
R4GENDERF	14779	0.00	0.03	0.00	1.00
S2GENDERF	9569	0.00	0.00	0.00	0.00
S3GENDERF	10592	0.00	0.01	0.00	1.00
S4GENDERF	9692	0.00	0.03	0.00	1.00

### Categorical Variable Codes

Value-----	RAGENDER			
1.Man	9613			
2.Woman	12403			
Value-----	S1GENDER	S2GENDER	S3GENDER	S4GENDER
.u:Unmar	4197	3753	4782	4845
.v:SP NR	125	11	349	111
1.Man	5471	5036	5297	4934
2.Woman	5393	4904	5295	4889
Value-----	R2GENDERF	R3GENDERF	R4GENDERF	
0.no gender problem	20241	16361	14765	
1.gender prob, used first		3	14	
Value-----	S2GENDERF	S3GENDERF	S4GENDERF	
.u:Unmar	4008	4782	4846	
.v:SP NR	127	349	241	
0.no gender problem	9569	10590	9684	
1.gender prob, used first		2	8	

### How Constructed

Gender was derived by looking at reports from all waves of data. The latest report of non-missing gender was always used. In addition, RAGENDERF is a flag variable which indicates whether a contradiction between reports was found. RAGENDERF was set to 0 for no contradictions or if new sample, and to 1 if contradictions between reports were found.

RAGENDER is set to 1 for man and 2 for woman. RAGENDER is set to plain missing (.) for respondents who did not respond to any waves.

SwGENDER indicates the current wave's spouses' gender. It is taken from the spouse's RAGENDER. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### **Cross Wave Differences in MHAS**

RAGENDERF is available starting in Wave 2.

### **Differences with the RAND HRS/Harmonized HRS**

The RAND HRS does not include a flag for differing reports of respondent gender.

### **MHAS Variables Used**

Wave 1:	
SEX0	respondent's sex
Wave 2:	
AA1	gender
Wave 3:	
A1_12	Respondent's sex
AA1_12	Respondent's sex
Wave 4:	
A1_15	Respondent's sex
AA1_15	Respondent's sex



<b>Education</b>
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Wave Variable	Label	Type
1 RAEDYRS	raedyrs: R Years of Education	Cont
1 S1EDYRS	s1edyrs: w1 S Years of Education	Cont
2 S2EDYRS	s2edyrs: w2 S Years of Education	Cont
3 S3EDYRS	s3edyrs: w3 S Years of Education	Cont
4 S4EDYRS	s4edyrs: w4 S Years of Education	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEDYRS	21786	5.48	4.80	0.00	22.00
S1EDYRS	10639	4.87	4.52	0.00	19.00
S2EDYRS	9840	4.77	4.47	0.00	19.00
S3EDYRS	10540	5.94	4.79	0.00	22.00
S4EDYRS	9670	6.11	4.80	0.00	22.00

### How Constructed

RAEDYRS is the respondent's number of year of education. Years of education is derived by looking at reports from the Demographics section (Section A). RAEDYRS is the total years of education, using the values of two variables, last completed level of education and numbers of years. In the level variable, a code of 0 indicates that the respondent did not complete any level. All codes between 1 and 7 indicate that the respondent completed at least one grade in the respective level. The following are the codes used for each level: 1 is used for 'primary', 2 is used for 'secondary', 3 for 'technical or commercial', 4 for 'preparatory or high school', 5 for 'basic teaching school', 6 for 'college', and 7 for 'graduate'. If the respondent did not provide a number of years, but did provide a level of education, the number of years assigned indicate the minimum number of years necessary to complete the previous level. When respondents don't know or refuse to answer the level of education, RAEDYRS is assigned special missing values .d or .r, respectively. If RAEDYRS is missing then first non-missing value from all waves of data is used.

SwEDYRS indicates the current wave's spouse's years of education. It is taken from the spouse's RAEDYRS. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the maximum value that RAEDYRS can take is 17, indicating 17 or more years of education. In the MHAS, there is no maximum number of years set.

### MHAS Variables Used

Wave 1:		
ESCOLA	respondent's years of education	
Wave 2:		
AA4A_3	new person's years of education	
Wave 3:		
AA4A1_12	Level of education	
AA4A2_12	Grade of education	
Wave 4:		
AA4A1_15	Level of education	
AA4A2_15	Grade of education	

<b>Education: Categories by ISCED Codes</b>
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Wave	Variable	Label	Type
1	RAEDISCED	raedisced: R Education by ISCED Code	Categ
1	S1EDISCED	s1edisced: w1 S Education by ISCED Code	Categ
2	S2EDISCED	s2edisced: w2 S Education by ISCED Code	Categ
3	S3EDISCED	s3edisced: w3 S Education by ISCED Code	Categ
4	S4EDISCED	s4edisced: w4 S Education by ISCED Code	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEDISCED	21786	1.45	1.42	0.00	6.00
S1EDISCED	10639	1.30	1.32	0.00	6.00
S2EDISCED	9840	1.27	1.30	0.00	6.00
S3EDISCED	10540	1.55	1.44	0.00	6.00
S4EDISCED	9670	1.59	1.45	0.00	6.00

### Categorical Variable Codes

Value	RAEDISCED	S1EDISCED	S2EDISCED	S3EDISCED	S4EDISCED
.d:DK	141	8	16	10	107
.m:Missing	87		65	41	43
.r:Refuse	2	1	1	1	1
0.Less than primary education	4323	4205	3755	4782	4846
1.Primary education	10905	333	27	349	112
2.Lower secondary education	3595	2326	2200	1665	1449
3.Upper secondary education	760	5744	5375	5421	4902
5.First stage of tertiary education	1976	1418	1249	1872	1804
6.Second stage of tertiary education	227	288	243	423	403
		786	705	1025	995
		77	68	134	117

### How Constructed

RAEDISCED is constructed to provide a harmonized measure of education using the ISCED 1997 International Standard Classification of Education ISCED codes. For more information on ISCED codes see [www.uis.unesco.org](http://www.uis.unesco.org).

Respondents were asked the last year or grade that he/she completed in school. RAEDISCED is constructed by looking at reports from all waves of data. Since the education question is only asked in the first interview, RAEDISCED is updated with the report from the new interviews completed in each wave.

RAEDISCED is assigned special missing values .d or .r, if Don't know or Refused, respectively. RAEDISCED is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwEDISCED indicates the current wave's spouse's ISCED code. It is taken from the respondent's spouse's RAEDISCED. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

The RAND HRS does not include an International Standard Classification of Education categorization of education achievements.

**MHAS Variables Used**

Wave 1:	
A3_1	level of education
Wave 2:	
AA4A_1	education level - level
Wave 3:	
AA4A1_12	Level of education
Wave 4:	
AA4A1_15	Level of education

**Education: Harmonized Education**

Wave	Variable	Label	Type
1	RAEDUCL	raeducl: R Harmonized Education	Categ
1	S1EDUCL	s1educl: w1 S Harmonized Education	Categ
2	S2EDUCL	s2educl: w2 S Harmonized Education	Categ
3	S3EDUCL	s3educl: w3 S Harmonized Education	Categ
4	S4EDUCL	s4educl: w4 S Harmonized Education	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEDUCL	21786	1.24	0.62	1.00	3.00
S1EDUCL	10922	1.19	0.56	1.00	3.00
S2EDUCL	9840	1.18	0.55	1.00	3.00
S3EDUCL	10540	1.26	0.64	1.00	3.00
S4EDUCL	9676	1.27	0.65	1.00	3.00

**Categorical Variable Codes**

Value	RAEDUCL	S1EDUCL	S2EDUCL	S3EDUCL	S4EDUCL
.d:DK	141	20	16	10	107
.m:Missing	87	86	73	41	48
.r:Refuse	2	1	1	1	2
1.Less than upper secondary	18823	4051	3754	4782	4845
2.Upper secondary and vocational	760	106	20	349	101
3.Tertiary	2203	9731	8824	8958	8161
		302	243	423	403
		889	773	1159	1112

**How Constructed**

RAEDUCL is constructed to provide a three-tier harmonized scale developed to compare education levels across countries. This Harmonized education scale is a simplified version of ISCED 1997 International Standard Classification of Education ISCED codes, used to construct RAEDISCED. For more information on ISCED codes see [www.uis.unesco.org](http://www.uis.unesco.org).

Respondents were asked the last year or grade that he/she completed in school. RAEDUCL is constructed by looking at reports from all waves of data. Since the education question is only asked in the first interview, RAEDISCED is updated with the report from the new interviews completed in each wave.

RAEDUCL is coded as follows: 1.Less than upper secondary education, 2.Upper secondary & vocational training, and 3.Tertiary education. Respondents are assigned a code of 1 if the respondent has an educational level equivalent to a code of 0, 1, or 2 for RAEDISCED. Respondents are assigned a code of 2 if the respondent has an educational level equivalent to a code of 3 or 4 for RAEDISCED. Respondents are assigned a code of 3 if the respondent has an educational level equivalent to a code of 5 or 6 for RAEDISCED.

RAEDUCL is assigned special missing values .d or .r, if Don't know or Refused, respectively. RAEDUCL is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwEDUCL indicates the current wave's spouse's harmonized scale of education in each wave. It is taken from the respondent's spouse's RAEDUCL. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is

not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### **Cross Wave Differences in MHAS**

No differences known.

### **Differences with the RAND HRS/Harmonized HRS**

The RAND HRS does not include an International Standard Classification of Education categorization of education achievements.

### **MHAS Variables Used**

Wave 1:	
A3_1	level of education
Wave 2:	
AA4A_1	education level - level
Wave 3:	
AA4A1_12	Level of education
Wave 4:	
AA4A1_15	Level of education

**Current Marital Status: Current Partnership Status**

Wave	Variable	Label	Type
1	R1MPART	r1mpart: w1 R Current Partnership Status	Categ
2	R2MPART	r2mpart: w2 R Current Partnership Status	Categ
3	R3MPART	r3mpart: w3 R Current Partnership Status	Categ
4	R4MPART	r4mpart: w4 R Current Partnership Status	Categ
1	S1MPART	s1mpart: w1 s Current Partnership Status	Categ
2	S2MPART	s2mpart: w2 S Current Partnership Status	Categ
3	S3MPART	s3mpart: w3 S Current Partnership Status	Categ
4	S4MPART	s4mpart: w4 S Current Partnership Status	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MPART	15184	0.03	0.17	0.00	1.00
R2MPART	13703	0.10	0.31	0.00	1.00
R3MPART	15723	0.07	0.26	0.00	1.00
R4MPART	14779	0.07	0.26	0.00	1.00
S1MPART	10648	0.04	0.21	0.00	1.00
S2MPART	9740	0.14	0.35	0.00	1.00
S3MPART	10592	0.10	0.31	0.00	1.00
S4MPART	9652	0.11	0.31	0.00	1.00

**Categorical Variable Codes**

Value	R1MPART	R2MPART	R3MPART	R4MPART
.d:DK		1		
.m:Missing	2			
0.No	14715	12278	14582	13673
1.Yes	469	1425	1141	1106

Value	S1MPART	S2MPART	S3MPART	S4MPART
.d:DK		1		
.u:Unmar	4205	4130	4782	4847
.v:SP NR	333	149	349	280
0.No	10179	8369	9491	8587
1.Yes	469	1371	1101	1065

**How Constructed**

Partnership is implied in all waves if the respondent reports being currently unmarried/unpartnered but is coupled with another respondent through HwCPL.

RwMPART indicates whether a respondent partnership is implied in the current wave. A code of 0 indicates it has not been implied that the respondent is partnered; a code of 1 indicates it has been implied that the respondent is partnered. When respondents don't know or refuse to answer, RwMPART is assigned special missing values .d or .r, respectively. RwMPART is set to plain missing (.) for respondents who did not respond to the current wave.

SwMPART indicates whether the current wave's spouse is considered partnered. It is taken from the spouse's RwMPART. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:  
A10 current marital status  
TIPENT\_01 Type of interview 2001

Wave 2:  
A3 respondent's marital status  
AA10 marital status  
TIPENT\_03 Type of interview 2003

Wave 3:  
A3\_12 Current marital status  
AA10\_12 Respondent's current marital status  
TIPENT\_12 Type of interview 2012

Wave 4:  
A3\_15 Current marital status  
AA10\_15 Respondent's current marital status  
TIPENT\_15 Type of interview 2015

**Current Marital Status: With Partnership**

Wave	Variable	Label	Type
1	R1MSTAT	r1mstat: w1 R Marital Status	Categ
2	R2MSTAT	r2mstat: w2 R Marital Status	Categ
3	R3MSTAT	r3mstat: w3 R Marital Status	Categ
4	R4MSTAT	r4mstat: w4 R Marital Status	Categ
1	S1MSTAT	s1mstat: w1 S Marital Status	Categ
2	S2MSTAT	s2mstat: w2 S Marital Status	Categ
3	S3MSTAT	s3mstat: w3 S Marital Status	Categ
4	S4MSTAT	s4mstat: w4 S Marital Status	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MSTAT	15184	2.55	2.50	1.00	8.00
R2MSTAT	13703	2.81	2.53	1.00	8.00
R3MSTAT	15723	2.80	2.58	1.00	8.00
R4MSTAT	14779	2.90	2.57	1.00	8.00
S1MSTAT	10648	1.09	0.41	1.00	3.00
S2MSTAT	9564	1.30	0.71	1.00	3.00
S3MSTAT	10592	1.21	0.61	1.00	3.00
S4MSTAT	9652	1.22	0.63	1.00	3.00

**Categorical Variable Codes**

Value	R1MSTAT	R2MSTAT	R3MSTAT	R4MSTAT
.d:DK		1		
.m:Missing	2			
1.Married	10512	8270	9800	8826
3.Partnered	469	1425	1141	1106
4.Separated	931	760	922	1042
5.Divorced	205	185	290	383
7.Widowed	2532	2544	2850	2814
8.Never married	535	519	720	608

Value	S1MSTAT	S2MSTAT	S3MSTAT	S4MSTAT
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Married	10179	8147	9491	8587
3.Partnered	469	1417	1101	1065

**How Constructed**

This variable is created using current marital status reported for each wave in the Demographics section. Partnership status is implied for respondents reporting being currently unmarried/unpartnered but coupled with another respondent through HwCPL.

RwMSTAT records the respondent's marital status in the current wave with implied partnership status, RwMPART. A code of 1 indicates that the respondent is married. A code of 3 indicates that the respondent is partnered, either through self-reported or implied partnership. A code of 4 indicates that the respondent is separated. A code of 5 indicates that the respondent is divorced. A code of 7 indicates that the respondent is widowed. A code of 8 indicates that the respondent has never been married. When respondents don't know or refuse to answer, RwmSTAT is assigned special missing values .d or .r, respectively. RwmSTAT is set to plain missing (.) for respondents who did not respond to the current wave.

SwMSTAT records the current wave's spouse's marital status. It is taken from the spouse's RwmSTAT. In addition to special missing codes of RwmSTAT, SwMSTAT employs two other special missing codes. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.



## Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

In the RAND HRS, the variable RwmSTATH can take value 2, indicating that the respondent is married but the spouse is absent. The MHAS marital status variable does not ask respondents whether they are married but their spouse is absent. The variable RwmSTATH is never equal to 2 in the Harmonized MHAS.

### MHAS Variables Used

#### Wave 1:

A10	current marital status
TIPENT_01	Type of interview 2001

#### Wave 2:

A3	respondent's marital status
AA10	marital status
TIPENT_03	Type of interview 2003

#### Wave 3:

A3_12	Current marital status
AA10_12	Respondent's current marital status
TIPENT_12	Type of interview 2012

#### Wave 4:

A3_15	Current marital status
AA10_15	Respondent's current marital status
TIPENT_15	Type of interview 2015

**Current Marital Status: Without Partnership**

Wave	Variable	Label	Type
1	R1MSTATH	r1mstath: w1 R Marital Status w/o Partnership Filled	Categ
2	R2MSTATH	r2mstath: w2 R Marital Status w/o Partnership Filled	Categ
3	R3MSTATH	r3mstath: w3 R Marital Status w/o Partnership Filled	Categ
4	R4MSTATH	r4mstath: w4 R Marital Status w/o Partnership Filled	Categ
1	S1MSTATH	s1mstath: w1 s Marital Status w/o Partnership Filled	Categ
2	S2MSTATH	s2mstath: w2 S Marital Status w/o Partnership Filled	Categ
3	S3MSTATH	s3mstath: w3 S Marital Status w/o Partnership Filled	Categ
4	S4MSTATH	s4mstath: w4 S Marital Status w/o Partnership Filled	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MSTATH	14730	2.54	2.54	1.00	8.00
R2MSTATH	13703	2.73	2.56	1.00	8.00
R3MSTATH	15723	2.81	2.58	1.00	8.00
R4MSTATH	14779	2.91	2.58	1.00	8.00
S1MSTATH	10194	1.01	0.20	1.00	8.00
S2MSTATH	9564	1.19	0.59	1.00	8.00
S3MSTATH	10592	1.21	0.65	1.00	8.00
S4MSTATH	9652	1.24	0.70	1.00	8.00

**Categorical Variable Codes**

Value-----	R1MSTATH	R2MSTATH	R3MSTATH	R4MSTATH
.d:DK		1		
.m:Missing	456			
1.Married	10512	8808	9800	8826
3.Partnered		881	1110	1036
4.Separated	935	762	940	1088
5.Divorced	209	185	291	385
7.Widowed	2535	2545	2860	2829
8.Never married	539	522	722	615

Value-----	S1MSTATH	S2MSTATH	S3MSTATH	S4MSTATH
.m:Missing	454			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Married	10179	8685	9491	8587
3.Partnered		873	1070	995
4.Separated	4	2	18	46
5.Divorced	4		1	2
7.Widowed	3	1	10	15
8.Never married	4	3	2	7

**How Constructed**

This variable is created using current marital status reported for each wave in the Demographic section. RwmSTATH ignores the implied partnership status, using the RwpART variable, and indicates the reported marital status in the current wave. A code of 1 indicates that the respondent is married. A code of 3 indicates that the respondent is partnered, only through self-reported. A code of 4 indicates that the respondent is separated. A code of 5 indicates that the respondent is divorced. A code of 7 indicates that the respondent is widowed. A code of 8 indicates that the respondent has never been married. When respondents don't know or refuse to answer, RwmSTATH is assigned special missing values .d or .r, respectively. RwmSTATH is set to plain missing (.) for respondents who did not respond to the current wave.

SwmSTATH indicates the current wave's spouse's marital status without partnership. It is taken from the spouse's RwmSTATH. In addition to specific missing codes used for RwmSTATH, SwmSTATH employs two other special missing codes. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not

designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the RAND HRS, the variable RwmSTATH can take value 2, indicating that the respondent is married but the spouse is absent. The MHAS marital status variable does not ask respondents whether they are married but their spouse is absent. The variable RwmSTATH is never equal to 2 in the Harmonized MHAS.

## MHAS Variables Used

Wave 1:	
A10	current marital status
Wave 2:	
A3	respondent's marital status
AA10	marital status
Wave 3:	
A3_12	Current marital status
AA10_12	Respondent's current marital status
Wave 4:	
A3_15	Current marital status
AA10_15	Respondent's current marital status

**Number of Marriages**

Wave	Variable	Label	Type
1	R1MRCT	r1mrct: w1 R Number of Marriages	Cont
2	R2MRCT	r2mrct: w2 R Number of Marriages	Cont
3	R3MRCT	r3mrct: w3 R Number of Marriages	Cont
4	R4MRCT	r4mrct: w4 R Number of Marriages	Cont
1	S1MRCT	s1mrct: w1 S Number of Marriages	Cont
2	S2MRCT	s2mrct: w2 S Number of Marriages	Cont
3	S3MRCT	s3mrct: w3 S Number of Marriages	Cont
4	S4MRCT	s4mrct: w4 S Number of Marriages	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MRCT	15121	1.13	0.55	0.00	11.00
R2MRCT	15317	1.15	0.56	0.00	11.00
R3MRCT	21208	1.15	0.61	0.00	29.00
R4MRCT	21736	1.17	0.60	0.00	11.00
S1MRCT	10596	1.17	0.50	0.00	11.00
S2MRCT	10779	1.19	0.52	0.00	11.00
S3MRCT	10524	1.18	0.50	0.00	11.00
S4MRCT	9652	1.21	0.53	0.00	11.00

**How Constructed**

The number of marriages is asked at the first interview the respondent completed in the MHAS and then it is updated in the following interviews. If the respondent reports not being single in the first interview then he/she is asked his/her marital status before their current marriage/union and then the total number of times he/she was in an union or married (not including the current union/last union). These questions were used to derive R<sub>w</sub>MRCT.

After the first interview, R<sub>w</sub>MRCT is updated if the respondent reports being currently married/union, if his/her last marriage/union ended, and if their current marriage started since the last interview.

R<sub>w</sub>MRCT is assigned special missing values .d or .r, if Don't know or Refused, respectively. R<sub>w</sub>MRCT is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

S<sub>w</sub>MRCT indicates the current wave's spouse's number of marriages. It is taken from the respondent's spouse's R<sub>w</sub>MRCT. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

Marriage history, including number of marriages, is asked only during the first interview and the variable generally proceeds from current marital status and the number of marriages. However, in the follow-up interview the respondent is only ask about the changes in marital status, including current marital status, if the last marriage/union ended, and if the current marriage started since the last interview. These questions were used to update the number of marriages variable.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:	
A10	current marital status
A13	married before

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A14	times married
Wave 2:	
A3	respondent's marital status
A4	still cohabitating with same person since 2001
A5	has last marriage/union ended since 2001
A6	current marriage/union started in last two years
AA10	marital status
AA13A	previous union
AA14	besides most recent, how many unions
Wave 3:	
A3_12	Current marital status
A4_12	Married/in union with same person from last interview
A5_12	Marriage/union ended since last interview
A6_12	Marriage/union started since last interview
AA10_12	Respondent's current marital status
AA13A_12	Respondent ever married/in union before current/last ma
AA13B_12	Respondent's marital status before current marriage/uni
AA14_12	Not including current/last marriage/union how many time
Wave 4:	
A3_15	Current marital status
A4_15	Married or in union with same person from last intervie
A5_15	Marriage or union ended since last interview
A6_15	Marriage or union started since last interview
AA10_15	Respondent's current marital status
AA13A_15	Respondent ever married or in union before current/last
AA13B_15	Respondent's marital status before current marriage or
AA14_15	Not including current/last marriage or union how many t

<b>Urban or Rural</b>
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Wave Variable	Label	Type
1 H1RURAL	h1rural:w1 lives in rural or urban	Categ
3 H3RURAL	h3rural:w3 lives in rural or urban	Categ
4 H4RURAL	h4rural:w4 lives in rural or urban	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1RURAL	15479	0.26	0.44	0.00	1.00
H3RURAL	20542	0.29	0.45	0.00	1.00
H4RURAL	17616	0.28	0.45	0.00	1.00

**Categorical Variable Codes**

Value-----	H1RURAL	H3RURAL	H4RURAL
0.urban	11435	14566	12664
1.rural	4044	5976	4952

**How Constructed**

HwRURAL indicates whether the respondent's household resides in an urban or rural location. HwRURAL is set to 0 if the respondent's household resides in an urban location, and is set to 1 if the respondent's household resides in a rural location. Missing responses are assigned special missing .m. HwRURAL is set to plain missing (.) for respondents who did not respond to the current wave.

**Cross Wave Differences in MHAS**

This variable is not available in Wave 2.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 1:		
TAMLOC_01	Locality size 2001	
Wave 3:		
TAM_LOC_12	Locality Size 2012	
Wave 4:		
TAM_LOC_15	Locality size 2015	

## **Section B: Health**

<b>Self-Report of Health</b>
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Wave	Variable	Label	Type
1	R1SHLT	r1shlt: w1 R Self-report of health	Categ
2	R2SHLT	r2shlt: w2 R Self-report of health	Categ
3	R3SHLT	r3shlt: w3 R Self-report of health	Categ
4	R4SHLT	r4shlt: w4 R Self-report of health	Categ
1	S1SHLT	s1shlt: w1 S Self-report of health	Categ
2	S2SHLT	s2shlt: w2 S Self-report of health	Categ
3	S3SHLT	s3shlt: w3 S Self-report of health	Categ
4	S4SHLT	s4shlt: w4 S Self-report of health	Categ
1	R1HLTC	r1hltc: w1 R Self-report of health change	Categ
2	R2HLTC	r2hltc: w2 R Self-report of health change	Categ
3	R3HLTC	r3hltc: w3 R Self-report of health change	Categ
4	R4HLTC	r4hltc: w4 R Self-report of health change	Categ
1	S1HLTC	s1hltc: w1 S Self-report of health change	Categ
2	S2HLTC	s2hltc: w2 S Self-report of health change	Categ
3	S3HLTC	s3hltc: w3 S Self-report of health change	Categ
4	S4HLTC	s4hltc: w4 S Self-report of health change	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SHLT	14147	3.69	0.85	1.00	5.00
R2SHLT	12521	3.78	0.82	1.00	5.00
R3SHLT	14445	3.66	0.85	1.00	5.00
R4SHLT	13847	3.73	0.83	1.00	5.00
S1SHLT	9983	3.66	0.85	1.00	5.00
S2SHLT	8739	3.76	0.81	1.00	5.00
S3SHLT	9864	3.64	0.84	1.00	5.00
S4SHLT	9181	3.71	0.83	1.00	5.00
R1HLTC	14107	3.23	0.77	1.00	5.00
R2HLTC	12521	3.28	0.79	1.00	5.00
R3HLTC	14447	3.15	0.80	1.00	5.00
R4HLTC	13847	3.18	0.80	1.00	5.00
S1HLTC	9953	3.22	0.76	1.00	5.00
S2HLTC	8738	3.27	0.78	1.00	5.00
S3HLTC	9866	3.13	0.79	1.00	5.00
S4HLTC	9181	3.17	0.78	1.00	5.00

### Categorical Variable Codes

Value-----	R1SHLT	R2SHLT	R3SHLT	R4SHLT
.d:DK	1	4	1	3
.m:Missing	4			
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	2	1	2	
1.Excellent	271	189	363	342
2.Very good	627	396	646	465
3.Good	4495	3559	4303	3710
4.Fair	6585	6204	7316	7347
5.Poor	2169	2173	1817	1983
Value-----	S1SHLT	S2SHLT	S3SHLT	S4SHLT
.d:DK	1	4	1	1
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	1		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280



1.Excellent	195	122	251	232
2.Very good	464	281	467	325
3.Good	3316	2583	2987	2513
4.Fair	4600	4346	5017	4905
5.Poor	1408	1407	1142	1206
Value-----	R1HLTC	R2HLTC	R3HLTC	R4HLTC
.d:DK	12	4	1	3
.m:Missing	4			
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	31	1		
1.Much better	314	282	544	442
2.Somewhat better	1334	1110	1513	1526
3.More or less the same	7955	6608	8132	7479
4.Somewhat worse	3797	3837	3723	3853
5.Much worse	707	684	535	547
Value-----	S1HLTC	S2HLTC	S3HLTC	S4HLTC
.d:DK	9	4		1
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	23	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Much better	214	199	385	285
2.Somewhat better	919	747	1040	965
3.More or less the same	5767	4747	5656	5154
4.Somewhat worse	2589	2612	2449	2466
5.Much worse	464	433	336	311

## How Constructed

RwSHLT is the respondent's self-reported general health status using the following scale: 1 for Excellent, 2 for Very Good, 3 for Good, 4 for Fair, and 5 for Poor. When respondents don't know or refuse to answer, RwSHLT is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing .m. Also, RwSHLT is set to the special missing value .p if the current interview was completed by proxy. RwSHLT is assigned plain missing (.) if the respondent did not participate in the current wave.

The SwSHLT variables are taken from the Wave 'w' spouse's self-reported RwSHLT variables. In addition to the special missing codes used in RwSHLT, SwSHLT employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwHLTC is the respondent's self-reported change in health compared to two years ago using the following scale: 1 for Much better, 2 for Somewhat better, 3 for More or less the same, 4 for Somewhat worse, and 5 for Much worse. When respondents don't know or refuse to answer, RwHLTC is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing .m. Also, RwHLTC is set to the special missing value .p if the current interview was completed by proxy. RwHLTC is assigned plain missing (.) if the respondent did not participate in the current wave.

The SwHLTC variables are taken from the Wave 'w' spouse's self-reported RwHLTC variables. In addition to the special missing codes used in RwHLTC, SwHLTC employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

While RwHLTC in the Harmonized MHAS and RAND HRS use the same answer scale through Wave 6 of the HRS, starting in HRS Wave 7, the answer scale is limited to responses of better, about the same, and worse.

## MHAS Variables Used

## Wave 1:

C1 quality of health

C2 changes in health

## Wave 2:

C1 health status

C2 health compared to two years ago

## Wave 3:

C1\_12 Global self-reported quality of health

C2A\_12 Compared to 2 years ago: Report your current health

## Wave 4:

C1\_15 Respondent's self-reported health

C2A\_15 Compared to 2 years ago: Respondent's current health

<b>Activities of Daily Living (ADLs): Raw Recodes</b>
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Wave	Variable	Label	Type
1	R1DRESS	r1dress: w1 R Difficulty-Dressing	Categ
2	R2DRESS	r2dress: w2 R Difficulty-Dressing	Categ
3	R3DRESS	r3dress: w3 R Difficulty-Dressing	Categ
4	R4DRESS	r4dress: w4 R Difficulty-Dressing	Categ
1	S1DRESS	s1dress: w1 S Difficulty-Dressing	Categ
2	S2DRESS	s2dress: w2 S Difficulty-Dressing	Categ
3	S3DRESS	s3dress: w3 S Difficulty-Dressing	Categ
4	S4DRESS	s4dress: w4 S Difficulty-Dressing	Categ
1	R1WALKR	r1walkr: w1 R Difficulty-Walking across room	Categ
2	R2WALKR	r2walkr: w2 R Difficulty-Walking across room	Categ
3	R3WALKR	r3walkr: w3 R Difficulty-Walking across room	Categ
4	R4WALKR	r4walkr: w4 R Difficulty-Walking across room	Categ
1	S1WALKR	s1walkr: w1 S Difficulty-Walking across room	Categ
2	S2WALKR	s2walkr: w2 S Difficulty-Walking across room	Categ
3	S3WALKR	s3walkr: w3 S Difficulty-Walking across room	Categ
4	R4WALKR	r4walkr: w4 R Difficulty-Walking across room	Categ
1	R1BATH	r1bath: w1 R Difficulty-Bathing or showering	Categ
2	R2BATH	r2bath: w2 R Difficulty-Bathing or showering	Categ
3	R3BATH	r3bath: w3 R Difficulty-Bathing or showering	Categ
4	R4BATH	r4bath: w4 R Difficulty-Bathing or showering	Categ
1	S1BATH	s1bath: w1 S Difficulty-Bathing or showering	Categ
2	S2BATH	s2bath: w2 S Difficulty-Bathing or showering	Categ
3	S3BATH	s3bath: w3 S Difficulty-Bathing or showering	Categ
4	S4BATH	s4bath: w4 S Difficulty-Bathing or showering	Categ
1	R1EAT	r1eat: w1 R Difficulty-Eating	Categ
2	R2EAT	r2eat: w2 R Difficulty-Eating	Categ
3	R3EAT	r3eat: w3 R Difficulty-Eating	Categ
4	R4EAT	r4eat: w4 R Difficulty-Eating	Categ
1	S1EAT	s1eat: w1 S Difficulty-Eating	Categ
2	S2EAT	s2eat: w2 S Difficulty-Eating	Categ
3	S3EAT	s3eat: w3 S Difficulty-Eating	Categ
4	S4EAT	s4eat: w4 S Difficulty-Eating	Categ
1	R1BED	r1bed: w1 R Difficulty-Getting in/out of bed	Categ
2	R2BED	r2bed: w2 R Difficulty-Getting in/out of bed	Categ
3	R3BED	r3bed: w3 R Difficulty-Getting in/out of bed	Categ
4	R4BED	r4bed: w4 R Difficulty-Getting in/out of bed	Categ
1	S1BED	s1bed: w1 S Difficulty-Getting in/out of bed	Categ
2	S2BED	s2bed: w2 S Difficulty-Getting in/out of bed	Categ
3	S3BED	s3bed: w3 S Difficulty-Getting in/out of bed	Categ
4	S4BED	s4bed: w4 S Difficulty-Getting in/out of bed	Categ
1	R1TOILT	r1toilt: w1 R Difficulty-Using the toilet	Categ
2	R2TOILT	r2toilt: w2 R Difficulty-Using the toilet	Categ
3	R3TOILT	r3toilt: w3 R Difficulty-Using the toilet	Categ
4	R4TOILT	r4toilt: w4 R Difficulty-Using the toilet	Categ
1	S1TOILT	s1toilt: w1 S Difficulty-Using the toilet	Categ
2	S2TOILT	s2toilt: w2 S Difficulty-Using the toilet	Categ
3	S3TOILT	s3toilt: w3 S Difficulty-Using the toilet	Categ
4	S4TOILT	s4toilt: w4 S Difficulty-Using the toilet	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
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R1DRESS	14048	0.07	0.27	0.00	9.00
R2DRESS	12501	0.06	0.27	0.00	9.00
R3DRESS	14443	0.10	0.38	0.00	9.00
R4DRESS	13802	0.12	0.41	0.00	9.00
S1DRESS	9924	0.06	0.24	0.00	2.00
S2DRESS	8737	0.05	0.24	0.00	9.00
S3DRESS	9865	0.09	0.36	0.00	9.00
S4DRESS	9165	0.10	0.34	0.00	9.00
R1WALKR	8199	0.11	0.41	0.00	9.00
R2WALKR	7233	0.11	0.36	0.00	9.00
R3WALKR	9921	0.14	0.50	0.00	9.00
R4WALKR	9800	0.17	0.64	0.00	9.00
S1WALKR	5394	0.09	0.41	0.00	9.00
S2WALKR	4765	0.09	0.31	0.00	9.00
S3WALKR	6258	0.10	0.41	0.00	9.00
R4WALKR	9800	0.17	0.64	0.00	9.00
R1BATH	8198	0.08	0.33	0.00	9.00
R2BATH	7233	0.08	0.36	0.00	9.00
R3BATH	9923	0.10	0.52	0.00	9.00
R4BATH	9800	0.12	0.53	0.00	9.00
S1BATH	5393	0.06	0.32	0.00	9.00
S2BATH	4765	0.06	0.24	0.00	2.00
S3BATH	6259	0.07	0.49	0.00	9.00
S4BATH	6052	0.10	0.54	0.00	9.00
R1EAT	8199	0.05	0.40	0.00	9.00
R2EAT	7233	0.04	0.25	0.00	9.00
R3EAT	9923	0.08	0.49	0.00	9.00
R4EAT	9800	0.07	0.41	0.00	9.00
S1EAT	5395	0.04	0.37	0.00	9.00
S2EAT	4765	0.03	0.22	0.00	9.00
S3EAT	6259	0.07	0.49	0.00	9.00
S4EAT	6052	0.06	0.41	0.00	9.00
R1BED	8199	0.10	0.34	0.00	9.00
R2BED	7233	0.10	0.31	0.00	9.00
R3BED	9921	0.13	0.39	0.00	9.00
R4BED	9800	0.16	0.48	0.00	9.00
S1BED	5394	0.09	0.34	0.00	9.00
S2BED	4765	0.08	0.30	0.00	9.00
S3BED	6258	0.12	0.34	0.00	9.00
S4BED	6052	0.14	0.42	0.00	9.00
R1TOILT	8184	0.08	0.32	0.00	9.00
R2TOILT	7233	0.07	0.30	0.00	9.00
R3TOILT	9920	0.11	0.47	0.00	9.00
R4TOILT	9800	0.13	0.59	0.00	9.00
S1TOILT	5387	0.06	0.32	0.00	9.00
S2TOILT	4765	0.06	0.23	0.00	2.00
S3TOILT	6258	0.09	0.39	0.00	9.00
S4TOILT	6052	0.10	0.49	0.00	9.00

### Categorical Variable Codes

Value-----	R1DRESS	R2DRESS	R3DRESS	R4DRESS
.d:DK	31		1	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	37		4	1
0.No	13147	11745	13103	12296

1.Yes	883	741	1307	1456
2.Can't Do	16	13	22	39
9.Don't Do	2	2	11	11
Value-----	S1DRESS	S2DRESS	S3DRESS	S4DRESS
.d:DK	26		1	7
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	25			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9355	8285	9049	8290
1.Yes	562	446	800	852
2.Can't Do	7	5	10	20
9.Don't Do		1	6	3
Value-----	R1WALKR	R2WALKR	R3WALKR	R4WALKR
.d:DK	38		31	6
.m:Missing	40	47		40
.r:Refuse	138	5	4	1
.s:Skip	6771	6419	5767	4932
0.No	7411	6461	8733	8521
1.Yes	750	759	1142	1167
2.Can't Do	31	10	28	77
9.Don't Do	7	3	18	35
Value-----	S1WALKR	S2WALKR	S3WALKR	R4WALKR
.d:DK	22		25	6
.m:Missing	14	23		40
.r:Refuse	89	3	2	1
.s:Skip	5129	4773	4307	4932
.u:Unmar	4205	4009	4782	
.v:SP NR	333	131	349	
0.No	4965	4363	5663	8521
1.Yes	409	393	575	1167
2.Can't Do	14	8	14	77
9.Don't Do	6	1	6	35
Value-----	R1BATH	R2BATH	R3BATH	R4BATH
.d:DK	38		31	6
.m:Missing	40	47		40
.r:Refuse	139	5	2	1
.s:Skip	6771	6419	5767	4932
0.No	7629	6702	9161	8834
1.Yes	542	517	722	907
2.Can't Do	23	9	16	36
9.Don't Do	4	5	24	23
Value-----	S1BATH	S2BATH	S3BATH	S4BATH
.d:DK	22		25	5
.m:Missing	14	23		10
.r:Refuse	90	3	1	
.s:Skip	5129	4773	4307	3585
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	5099	4486	5923	5599
1.Yes	281	272	313	425
2.Can't Do	10	7	8	11
9.Don't Do	3		15	17
Value-----	R1EAT	R2EAT	R3EAT	R4EAT
.d:DK	39		31	6
.m:Missing	40	47		40
.r:Refuse	137	5	2	1
.s:Skip	6771	6419	5767	4932
0.No	7884	6959	9384	9248
1.Yes	289	266	480	510
2.Can't Do	14	6	36	29
9.Don't Do	12	2	23	13
Value-----	S1EAT	S2EAT	S3EAT	S4EAT
.d:DK	22		25	5
.m:Missing	14	23		10
.r:Refuse	88	3	1	
.s:Skip	5129	4773	4307	3585
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	5242	4620	5993	5775

1.Yes	140	140	224	251
2.Can't Do	6	4	27	17
9.Don't Do	7	1	15	9
Value-----	R1BED	R2BED	R3BED	R4BED
.d:DK	38		32	6
.m:Missing	40	47		40
.r:Refuse	138	5	3	1
.s:Skip	6771	6419	5767	4932
0.No	7403	6557	8662	8363
1.Yes	775	669	1234	1383
2.Can't Do	19	6	20	42
9.Don't Do	2	1	5	12
Value-----	S1BED	S2BED	S3BED	S4BED
.d:DK	22		26	5
.m:Missing	14	23		10
.r:Refuse	89	3	1	
.s:Skip	5129	4773	4307	3585
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	4916	4385	5552	5269
1.Yes	471	375	691	757
2.Can't Do	5	4	14	22
9.Don't Do	2	1	1	4
Value-----	R1TOILT	R2TOILT	R3TOILT	R4TOILT
.d:DK	44		33	6
.m:Missing	40	47		40
.r:Refuse	147	5	3	1
.s:Skip	6771	6419	5767	4932
0.No	7614	6737	8976	8851
1.Yes	547	486	895	866
2.Can't Do	20	8	33	52
9.Don't Do	3	2	16	31
Value-----	S1TOILT	S2TOILT	S3TOILT	S4TOILT
.d:DK	25		26	5
.m:Missing	14	23		10
.r:Refuse	93	3	1	
.s:Skip	5129	4773	4307	3585
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	5071	4503	5784	5565
1.Yes	306	257	455	457
2.Can't Do	7	5	13	18
9.Don't Do	3		6	12

## How Constructed

These variables recode the raw variables for difficulty with activities of daily living (ADLs) as they appear in the MHAS data except for missing values and accounting for skip patterns. The ADLs include dressing (RwDRESS), walking across a room (RwWALKR), bathing (RwBATH), eating (RwEAT), getting in and out of bed (RwBED), and using the toilet (RwTOILT). In the following, references to Rw[adl] apply to all these variables except RwDRESS.

For all the waves, the ADL questions are skipped if no difficulty was reported with any of the tasks asked about earlier (questions H1 to H13), including the difficulty with dressing question. In these cases, Rw[adl] is set to a special missing .s. All the Rw[adl] and RwDRESS variables are set to 0 if the response is "no" difficulty; 1 if the response is "yes"; and 2 or 9 if the response is "can't do" or "don't do", respectively.

These variables are coded .d for "don't know" and .r for refusals. If the difficulty question is skipped because of previous answers to the tasks asked about earlier (questions H1 to H13), then Rw[adl] is set to .s. If the answer is otherwise missing, then these variables are coded .m for "missing". These variables are assigned plain missing (.) if the respondent did not participate in the current wave.

In all waves, the question regarding difficulty dressing is part of the introductory questions asked at the beginning of the module (Section H). This question is skipped if interviews are completed by proxy and the variable RwDRESS is set to .p.

SwWALKR, SwDRESS, SwBATH, SwEAT, SwBED, and SwTOILT indicate whether the respondent's spouse reported any difficulty with each one of these daily living activities and are taken directly from

the spouse's Rw[adl] variables, respectively. In addition to the special missing codes used in the Rw[adl] variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

### Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H15_1	difficult walking
H16_1	difficult bathing
H17_1	difficult eating
H18_1	difficult getting in an out of bed
H19_1	difficult using toilet
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

### Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H13	health problems-trouble dressing self
H15A	health problem-trouble walking
H15C	has difficulties with activity
H16A	health problem-have trouble bathing
H16C	has difficulties with activity
H17A	health problem-trouble eating or cutting
H17C	has difficulties with activity
H18A	health problem-get in/out of bed
H18C	has difficulties with activity
H19A	health problem-trouble going to bathroom
H19C	has difficulties with activity
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

### Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H13_12	Because of health problem, difficulty dressing self
H15A_12	Because of health problem, difficulty walking
H15C01_12	You use guardrail to walk across room
H15C02_12	You use walker to walk across room
H15C03_12	You use staff to walk across room
H15C04_12	You use crutches to walk across room
H15C05_12	You use orthopedic shoes to walk across room
H15C06_12	You use clamp to walk across room

H15C07_12	You use prosthesis to walk across room
H15C08_12	You use oxygen/respirator to walk across room
H15C09_12	You use furniture/walls to walk across room
H15C10_12	You use wheelchair/cart to walk across room
H15C11_12	You use other to walk across room
H15C88_12	RF equipment walk across room
H15C99_12	DK equipment walk across room
H16A_12	Because of health problem, difficulty bathing
H17A_12	Because of health problem, difficulty eating or cutting
H18A_12	Because of health problem, difficulty get in/out of bed
H18C01_12	You use guardrail to get into or out of bed
H18C02_12	You use walker to get into or out of bed
H18C03_12	You use staff to get into or out of bed
H18C04_12	You use crutches to get into or out of bed
H18C05_12	You use orthopedic shoes to get into or out of bed
H18C06_12	You use clamp to get into or out of bed
H18C07_12	You use prosthesis to get into or out of bed
H18C08_12	You use oxygen/respirator to get into or out of bed
H18C09_12	You use furniture/walls to get into or out of bed
H18C10_12	You use wheelchair/cart to get into or out of bed
H18C11_12	You use other to get into or out of bed
H18C88_12	RF equipment get into or out of bed
H18C99_12	DK equipment get into or out of bed
H19A_12	Because of health problem, difficulty going to the bath
H1_12	Because of health problem, difficulty walking blocks
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms

## Wave 4:

H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15B_15	Does respondent ever use equipment (to walk across a ro
H15C01_15	Type of equipment respondent uses (to walk across a roo
H15C02_15	Type of equipment respondent uses (to walk across a roo
H15C03_15	Type of equipment respondent uses (to walk across a roo
H15C04_15	Type of equipment respondent uses (to walk across a roo
H15C05_15	Type of equipment respondent uses (to walk across a roo
H15C06_15	Type of equipment respondent uses (to walk across a roo
H15C07_15	Type of equipment respondent uses (to walk across a roo
H15C08_15	Type of equipment respondent uses (to walk across a roo
H15C09_15	Type of equipment respondent uses (to walk across a roo
H15C10_15	Type of equipment respondent uses (to walk across a roo
H15C11_15	Type of equipment respondent uses (to walk across a roo
H15C88_15	Type of equipment respondent uses (to walk across a roo
H15C99_15	Type of equipment respondent uses (to walk across a roo
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18B_15	Does respondent ever use equipment (to get in or out of
H18C01_15	Type of equipment respondent uses (to get in or out of
H18C02_15	Type of equipment respondent uses (to get in or out of
H18C03_15	Type of equipment respondent uses (to get in or out of
H18C04_15	Type of equipment respondent uses (to get in or out of
H18C05_15	Type of equipment respondent uses (to get in or out of
H18C06_15	Type of equipment respondent uses (to get in or out of
H18C07_15	Type of equipment respondent uses (to get in or out of
H18C08_15	Type of equipment respondent uses (to get in or out of
H18C09_15	Type of equipment respondent uses (to get in or out of
H18C10_15	Type of equipment respondent uses (to get in or out of



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H18C11_15	Type of equipment respondent uses (to get in or out of
H18C88_15	Type of equipment respondent uses (to get in or out of
H18C99_15	Type of equipment respondent uses (to get in or out of
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu

<b>Activities of Daily Living (ADLs): Some Difficulty</b>
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Wave	Variable	Label	Type
1	R1WALKRA	r1walkra: w1 R Some difficulty-Walking across room	Categ
2	R2WALKRA	r2walkra: w2 R Some difficulty-Walking across room	Categ
3	R3WALKRA	r3walkra: w3 R Some difficulty-Walking across room	Categ
4	R4WALKRA	r4walkra: w4 R Some difficulty-Walking across room	Categ
1	S1WALKRA	s1walkra: w1 S Some difficulty-Walking across room	Categ
2	S2WALKRA	s2walkra: w2 S Some difficulty-Walking across room	Categ
3	S3WALKRA	s3walkra: w3 S Some difficulty-Walking across room	Categ
4	S4WALKRA	s4walkra: w4 S Some difficulty-Walking across room	Categ
1	R1DRESSA	r1dressa: w1 R Some difficulty-Dressing	Categ
2	R2DRESSA	r2dressa: w2 R Some difficulty-Dressing	Categ
3	R3DRESSA	r3dressa: w3 R Some difficulty-Dressing	Categ
4	R4DRESSA	r4dressa: w4 R Some difficulty-Dressing	Categ
1	S1DRESSA	s1dressa: w1 S Some difficulty-Dressing	Categ
2	S2DRESSA	s2dressa: w2 S Some difficulty-Dressing	Categ
3	S3DRESSA	s3dressa: w3 S Some difficulty-Dressing	Categ
4	S4DRESSA	s4dressa: w4 S Some difficulty-Dressing	Categ
1	R1BATHA	r1batha: w1 R Some difficulty-Bathing or showering	Categ
2	R2BATHA	r2batha: w2 R Some difficulty-Bathing or showering	Categ
3	R3BATHA	r3batha: w3 R Some difficulty-Bathing or showering	Categ
4	R4BATHA	r4batha: w4 R Some difficulty-Bathing or showering	Categ
1	S1BATHA	s1batha: w1 S Some difficulty-Bathing or showering	Categ
2	S2BATHA	s2batha: w2 S Some difficulty-Bathing or showering	Categ
3	S3BATHA	s3batha: w3 S Some difficulty-Bathing or showering	Categ
4	S4BATHA	s4batha: w4 S Some difficulty-Bathing or showering	Categ
1	R1EATA	r1eata: w1 R Some difficulty-Bathing or showering	Categ
2	R2EATA	r2eata: w2 R Some difficulty-Bathing or showering	Categ
3	R3EATA	r3eata: w3 R Some difficulty-Bathing or showering	Categ
4	R4EATA	r4eata: w4 R Some difficulty-Bathing or showering	Categ
1	S1EATA	s1eata: w1 S Some difficulty-Bathing or showering	Categ
2	S2EATA	s2eata: w2 S Some difficulty-Bathing or showering	Categ
3	S3EATA	s3eata: w3 S Some difficulty-Bathing or showering	Categ
4	S4EATA	s4eata: w4 S Some difficulty-Bathing or showering	Categ
1	R1BEDA	r1beda: w1 R Some difficulty-Getting in/out of bed	Categ
2	R2BEDA	r2beda: w2 R Some difficulty-Getting in/out of bed	Categ
3	R3BEDA	r3beda: w3 R Some difficulty-Getting in/out of bed	Categ
4	R4BEDA	r4beda: w4 R Some difficulty-Getting in/out of bed	Categ
1	S1BEDA	s1beda: w1 S Some difficulty-Getting in/out of bed	Categ
2	S2BEDA	s2beda: w2 S Some difficulty-Getting in/out of bed	Categ
3	S3BEDA	s3beda: w3 S Some difficulty-Getting in/out of bed	Categ
4	S4BEDA	s4beda: w4 S Some difficulty-Getting in/out of bed	Categ
1	R1TOILTA	r1toilta: w1 R Some difficulty-Using the toilet	Categ
2	R2TOILTA	r2toilta: w2 R Some difficulty-Using the toilet	Categ
3	R3TOILTA	r3toilta: w3 R Some difficulty-Using the toilet	Categ
4	R4TOILTA	r4toilta: w4 R Some difficulty-Using the toilet	Categ
1	S1TOILTA	s1toilta: w1 S Some difficulty-Using the toilet	Categ
2	S2TOILTA	s2toilta: w2 S Some difficulty-Using the toilet	Categ
3	S3TOILTA	s3toilta: w3 S Some difficulty-Using the toilet	Categ
4	S4TOILTA	s4toilta: w4 S Some difficulty-Using the toilet	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
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R1WALKRA	14966	0.05	0.22	0.00	1.00
R2WALKRA	13650	0.06	0.23	0.00	1.00
R3WALKRA	15680	0.08	0.26	0.00	1.00
R4WALKRA	14720	0.09	0.28	0.00	1.00
S1WALKRA	10520	0.04	0.20	0.00	1.00
S2WALKRA	9537	0.04	0.20	0.00	1.00
S3WALKRA	10562	0.06	0.23	0.00	1.00
S4WALKRA	9632	0.06	0.24	0.00	1.00
R1DRESSA	14046	0.06	0.24	0.00	1.00
R2DRESSA	12499	0.06	0.24	0.00	1.00
R3DRESSA	14434	0.09	0.29	0.00	1.00
R4DRESSA	13798	0.11	0.31	0.00	1.00
S1DRESSA	9924	0.06	0.23	0.00	1.00
S2DRESSA	8736	0.05	0.22	0.00	1.00
S3DRESSA	9860	0.08	0.27	0.00	1.00
S4DRESSA	9164	0.10	0.29	0.00	1.00
R1BATHA	14967	0.04	0.19	0.00	1.00
R2BATHA	13647	0.04	0.19	0.00	1.00
R3BATHA	15667	0.05	0.21	0.00	1.00
R4BATHA	14721	0.06	0.25	0.00	1.00
S1BATHA	10521	0.03	0.16	0.00	1.00
S2BATHA	9538	0.03	0.17	0.00	1.00
S3BATHA	10551	0.03	0.17	0.00	1.00
S4BATHA	9628	0.05	0.21	0.00	1.00
R1EATA	14965	0.02	0.14	0.00	1.00
R2EATA	13650	0.02	0.14	0.00	1.00
R3EATA	15671	0.03	0.18	0.00	1.00
R4EATA	14723	0.04	0.19	0.00	1.00
S1EATA	10520	0.01	0.12	0.00	1.00
S2EATA	9537	0.02	0.12	0.00	1.00
S3EATA	10552	0.02	0.15	0.00	1.00
S4EATA	9630	0.03	0.17	0.00	1.00
R1BEDA	14969	0.05	0.22	0.00	1.00
R2BEDA	13651	0.05	0.22	0.00	1.00
R3BEDA	15685	0.08	0.27	0.00	1.00
R4BEDA	14728	0.10	0.30	0.00	1.00
S1BEDA	10522	0.05	0.21	0.00	1.00
S2BEDA	9537	0.04	0.20	0.00	1.00
S3BEDA	10564	0.07	0.25	0.00	1.00
S4BEDA	9637	0.08	0.27	0.00	1.00
R1TOILTA	14955	0.04	0.19	0.00	1.00
R2TOILTA	13651	0.04	0.19	0.00	1.00
R3TOILTA	15677	0.06	0.24	0.00	1.00
R4TOILTA	14712	0.06	0.24	0.00	1.00
S1TOILTA	10516	0.03	0.17	0.00	1.00
S2TOILTA	9538	0.03	0.16	0.00	1.00
S3TOILTA	10560	0.04	0.21	0.00	1.00
S4TOILTA	9631	0.05	0.22	0.00	1.00

### Categorical Variable Codes

Value-----	R1WALKRA	R2WALKRA	R3WALKRA	R4WALKRA
.d:DK	38		31	6
.m:Missing	40	47		40
.r:Refuse	138	5	4	1
.x:Doesn't do	4	2	8	12
0.No	14182	12880	14500	13453

1.Yes	784	770	1180	1267
Value-----	S1WALKRA	S2WALKRA	S3WALKRA	S4WALKRA
.d:DK	22		25	5
.m:Missing	14	23		10
.r:Refuse	89	3	2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	3	1	3	5
0.No	10094	9136	9970	9031
1.Yes	426	401	592	601
Value-----	R1DRESSA	R2DRESSA	R3DRESSA	R4DRESSA
.d:DK	31		1	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	37		4	1
.x:Doesn't do	2	2	9	4
0.No	13147	11745	13103	12296
1.Yes	899	754	1331	1502
Value-----	S1DRESSA	S2DRESSA	S3DRESSA	S4DRESSA
.d:DK	26		1	7
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	25			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do		1	5	1
0.No	9355	8285	9049	8290
1.Yes	569	451	811	874
Value-----	R1BATHA	R2BATHA	R3BATHA	R4BATHA
.d:DK	38		31	6
.m:Missing	40	47		40
.r:Refuse	139	5	2	1
.x:Doesn't do	2	5	23	11
0.No	14400	13121	14928	13766
1.Yes	567	526	739	955
Value-----	S1BATHA	S2BATHA	S3BATHA	S4BATHA
.d:DK	22		25	5
.m:Missing	14	23		10
.r:Refuse	90	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	1		15	9
0.No	10228	9259	10230	9184
1.Yes	293	279	321	444
Value-----	R1EATA	R2EATA	R3EATA	R4EATA
.d:DK	39		31	6
.m:Missing	40	47		40
.r:Refuse	137	5	2	1
.x:Doesn't do	5	2	19	9
0.No	14655	13378	15151	14180
1.Yes	310	272	520	543
Value-----	S1EATA	S2EATA	S3EATA	S4EATA
.d:DK	22		25	5
.m:Missing	14	23		10
.r:Refuse	88	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	4	1	14	7
0.No	10371	9393	10300	9360
1.Yes	149	144	252	270
Value-----	R1BEDA	R2BEDA	R3BEDA	R4BEDA
.d:DK	38		32	6
.m:Missing	40	47		40
.r:Refuse	138	5	3	1
.x:Doesn't do	1	1	3	4
0.No	14174	12976	14429	13295
1.Yes	795	675	1256	1433
Value-----	S1BEDA	S2BEDA	S3BEDA	S4BEDA
.d:DK	22		26	5

.m:Missing	14	23		10
.r:Refuse	89	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	1	1	1	
0.No	10045	9158	9859	8854
1.Yes	477	379	705	783
Value-----	R1TOILTA	R2TOILTA	R3TOILTA	R4TOILTA
.d:DK	44		33	6
.m:Missing	40	47		40
.r:Refuse	147	5	3	1
.x:Doesn't do		1	10	20
0.No	14385	13156	14743	13783
1.Yes	570	495	934	929
Value-----	S1TOILTA	S2TOILTA	S3TOILTA	S4TOILTA
.d:DK	25		26	5
.m:Missing	14	23		10
.r:Refuse	93	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do			5	6
0.No	10200	9276	10091	9150
1.Yes	316	262	469	481

## How Constructed

These variables indicate difficulty with activities of daily living (ADLs). The ADL variables include walking across a room (RwWALKRA), dressing (RwDRESSA), bathing (RwBATHA), eating (RwEATA), getting in and out of bed (RwBEDA), and using the toilet (RwTOILTA). 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 or if they reported "can't do". When respondents indicated "don't know" or refused to answer the Rw[adl]A variables are assigned special missing values .d or .r, respectively. Also, if the respondent reported "don't do" but received help, the ADL variables are set to 1, otherwise they are set to special missing value .x. The variables are also set to 0 if the difficulty question is skipped because of previous answers to the tasks asked about earlier (questions H1 to H13), indicating no difficulty. If the response is otherwise missing, then these variables are assigned special missing value .m. RwWALKRA, RwDRESSA, RwBATHA, RwEATA, RwBEDA, and RwTOILTA are set to plain missing (.) for respondents who did not respond to the current wave.

In all waves, the questions regarding difficulty dressing and help getting dressed are part of the introductory questions asked at the beginning of the module (Section H). This task is skipped if interviews are completed by proxy and the variable RwDRESSA and is set to .p.

SwWALKRA, SwDRESSA, SwBATHA, SwEATA, SwBEDA, and SwTOILTA indicate whether the respondent's spouse reported any difficulty with each one of these daily living activities and are taken directly from the spouse's Rw[adl]A variables, respectively. In addition to the special missing codes used in the Rw[adl]A variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Some of these variables are used to construct a number of ADL summary indices. Please see "ADLs Summary" and "Other Summary Indices".

## Cross Wave Differences in MHAS

In waves 1 and 2, two separate questions were asked regarding the help received with walking across the room, bathing or showering, eating, getting into or out of bed, or using the toilet. The first one is only asked if the respondent is married or in a union, and it says: "Does your spouse help you?". The second question is asked regardless of the marital status and it indicates if "anyone (else) ever help you?". These two questions are used to construct R1[adl]H and R2[adl]H and to determine if the respondent has some difficulty when they reported "Don't Do" when constructing R1[adl]A and R2[adl]A. Starting in wave 3, only one question was asked regarding the help received: "Does someone help you?".

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one

mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

### Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_1	difficult using toilet
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

### Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H13	health problems-trouble dressing self
H14	someone help you to get dressed
H15A	health problem-trouble walking
H15E	spouse helps
H15F	additional person helps
H16A	health problem-have trouble bathing
H16E	spouse helps
H16F	additional person helps
H17A	health problem-trouble eating or cutting
H17E	spouse helps
H17F	additional person helps
H18A	health problem-get in/out of bed
H18E	spouse helps
H18F	additional person helps
H19A	health problem-trouble going to bathroom
H19E	spouse helps
H19F	additional person helps
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

### Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H13_12	Because of health problem, difficulty dressing self
H14_12	Someone help you to get dressed
H15A_12	Because of health problem, difficulty walking
H15D_12	Someone help you walk across room

H16A_12	Because of health problem, difficulty bathing
H16D_12	Someone help you to bathe or shower
H17A_12	Because of health problem, difficulty eating or cutting
H17D_12	Does someone help you eat your food
H18A_12	Because of health problem, difficulty get in/out of bed
H18D_12	Does someone help you get into or out of bed
H19A_12	Because of health problem, difficulty going to the bath
H19D_12	Does someone help you use toilet, get on off
H1_12	Because of health problem, difficulty walking blocks
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms

## Wave 4:

H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu

<b>Instrumental Activities of Daily Living (IADLs): Raw Recodes</b>
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Wave	Variable	Label	Type
1	R1MONEY	r1money: w1 R Difficulty-Managing money	Categ
2	R2MONEY	r2money: w2 R Difficulty-Managing money	Categ
3	R3MONEY	r3money: w3 R Difficulty-Managing money	Categ
4	R4MONEY	r4money: w4 R Difficulty-Managing money	Categ
1	S1MONEY	s1money: w1 S Difficulty-Managing money	Categ
2	S2MONEY	s2money: w2 S Difficulty-Managing money	Categ
3	S3MONEY	s3money: w3 S Difficulty-Managing money	Categ
4	S4MONEY	s4money: w4 S Difficulty-Managing money	Categ
1	R1MEDS	r1meds: w1 R Difficulty-Taking medications	Categ
2	R2MEDS	r2meds: w2 R Difficulty-Taking medications	Categ
3	R3MEDS	r3meds: w3 R Difficulty-Taking medications	Categ
4	R4MEDS	r4meds: w4 R Difficulty-Taking medications	Categ
1	S1MEDS	s1meds: w1 S Difficulty-Taking medications	Categ
2	S2MEDS	s2meds: w2 S Difficulty-Taking medications	Categ
3	S3MEDS	s3meds: w3 S Difficulty-Taking medications	Categ
4	S4MEDS	s4meds: w4 S Difficulty-Taking medications	Categ
1	R1SHOP	r1shop: w1 R Difficulty-Shopping for groceries	Categ
2	R2SHOP	r2shop: w2 R Difficulty-Shopping for groceries	Categ
3	R3SHOP	r3shop: w3 R Difficulty-Shopping for groceries	Categ
4	R4SHOP	r4shop: w4 R Difficulty-Shopping for groceries	Categ
1	S1SHOP	s1shop: w1 S Difficulty-Shopping for groceries	Categ
2	S2SHOP	s2shop: w2 S Difficulty-Shopping for groceries	Categ
3	S3SHOP	s3shop: w3 S Difficulty-Shopping for groceries	Categ
4	S4SHOP	s4shop: w4 S Difficulty-Shopping for groceries	Categ
1	R1MEALS	r1meals: w1 R Difficulty-Preparing hot meals	Categ
2	R2MEALS	r2meals: w2 R Difficulty-Preparing hot meals	Categ
3	R3MEALS	r3meals: w3 R Difficulty-Preparing hot meals	Categ
4	R4MEALS	r4meals: w4 R Difficulty-Preparing hot meals	Categ
1	S1MEALS	s1meals: w1 S Difficulty-Preparing hot meals	Categ
2	S2MEALS	s2meals: w2 S Difficulty-Preparing hot meals	Categ
3	S3MEALS	s3meals: w3 S Difficulty-Preparing hot meals	Categ
4	S4MEALS	s4meals: w4 S Difficulty-Preparing hot meals	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MONEY	14052	0.05	0.51	0.00	9.00
R2MONEY	12516	0.05	0.48	0.00	9.00
R3MONEY	14439	0.05	0.50	0.00	9.00
R4MONEY	13801	0.07	0.63	0.00	9.00
S1MONEY	9929	0.04	0.46	0.00	9.00
S2MONEY	8742	0.04	0.42	0.00	9.00
S3MONEY	9862	0.04	0.47	0.00	9.00
S4MONEY	9167	0.06	0.60	0.00	9.00
R1MEDS	14056	0.04	0.44	0.00	9.00
R2MEDS	12516	0.06	0.59	0.00	9.00
R3MEDS	14445	0.13	0.98	0.00	9.00
R4MEDS	13802	0.15	1.04	0.00	9.00
S1MEDS	9934	0.03	0.40	0.00	9.00
S2MEDS	8743	0.05	0.59	0.00	9.00
S3MEDS	9864	0.12	0.98	0.00	9.00
S4MEDS	9165	0.14	1.01	0.00	9.00



R1SHOP	14016	0.27	1.35	0.00	9.00
R2SHOP	12515	0.26	1.29	0.00	9.00
R3SHOP	14440	0.25	1.20	0.00	9.00
R4SHOP	13801	0.30	1.30	0.00	9.00
S1SHOP	9898	0.26	1.38	0.00	9.00
S2SHOP	8742	0.24	1.30	0.00	9.00
S3SHOP	9863	0.22	1.17	0.00	9.00
S4SHOP	9166	0.24	1.19	0.00	9.00
R1MEALS	14001	0.47	1.91	0.00	9.00
R2MEALS	12514	0.48	1.93	0.00	9.00
R3MEALS	14440	0.44	1.85	0.00	9.00
R4MEALS	13801	0.40	1.73	0.00	9.00
S1MEALS	9880	0.53	2.06	0.00	9.00
S2MEALS	8742	0.54	2.07	0.00	9.00
S3MEALS	9860	0.50	2.00	0.00	9.00
S4MEALS	9165	0.42	1.81	0.00	9.00

### Categorical Variable Codes

Value-----	R1MONEY	R2MONEY	R3MONEY	R4MONEY
.d:DK	17		8	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	47	2	1	2
0.No	13693	12205	14056	13321
1.Yes	282	240	331	383
2.Can't Do	37	40	12	35
9.Don't Do	40	31	40	62
Value-----	S1MONEY	S2MONEY	S3MONEY	S4MONEY
.d:DK	13		4	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	33	2		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9747	8577	9650	8922
1.Yes	143	128	182	191
2.Can't Do	15	20	6	16
9.Don't Do	24	17	24	38
Value-----	R1MEDS	R2MEDS	R3MEDS	R4MEDS
.d:DK	16		1	6
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	44	1	2	2
0.No	13692	12193	13944	13143
1.Yes	314	252	327	462
2.Can't Do	21	20	5	14
9.Don't Do	29	51	169	183
Value-----	S1MEDS	S2MEDS	S3MEDS	S4MEDS
.d:DK	11		1	6
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	30	1	1	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9745	8568	9573	8815
1.Yes	165	128	174	228
2.Can't Do	7	11	1	7
9.Don't Do	17	36	116	115
Value-----	R1SHOP	R2SHOP	R3SHOP	R4SHOP
.d:DK	30		3	8
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	70	2	5	1
0.No	12858	11435	12924	12119
1.Yes	693	687	1120	1153

2.Can't Do	151	139	151	253
9.Don't Do	314	254	245	276
Value-----	S1SHOP	S2SHOP	S3SHOP	S4SHOP
.d:DK	21		1	6
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	56	2	2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9207	8158	9062	8331
1.Yes	379	330	567	569
2.Can't Do	81	72	72	112
9.Don't Do	231	182	162	154
Value-----	R1MEALS	R2MEALS	R3MEALS	R4MEALS
.d:DK	34		3	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	81	3	5	2
0.No	12841	11420	13190	12560
1.Yes	411	404	528	545
2.Can't Do	91	90	87	176
9.Don't Do	658	600	635	520
Value-----	S1MEALS	S2MEALS	S3MEALS	S4MEALS
.d:DK	28		3	7
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	67	2	3	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9053	8016	9048	8452
1.Yes	227	191	260	251
2.Can't Do	52	45	41	76
9.Don't Do	548	490	511	386

## How Constructed

These variables recode the raw variables for difficulty with instrumental activities of daily living (IADLs) as they appear in the MHAS data except for missing values and accounting for skip patterns. The IADLs include managing money (RwMONEY), taking medications (RwMEDS), shopping for groceries (RwSHOP), and preparing meals (RwMEALS). All the Rw[iadl] variables are set to 0 if the response is "no" difficulty; 1 if the response is "yes"; and 2 or 9 if the response is "can't do" or "don't do", respectively. RwMONEY, RwMEDS, RwSHOP, and RwMEALS are assigned special missing values .d for "don't know", .r for refusals, and .p for proxy interviews. If the Respondent answers "can't do" or "don't do" to the first question, the second question that asks if this is because of a health problem. If it is because of a health problem, Rw[iadl] is set to 2 for "can't do". If not, the answer is considered a "don't do" response and Rw[iadl] is set to 9. If the answer is otherwise missing, then these variables are assigned special missing .m. RwMONEY, RwMEDS, RwSHOP, and RwMEALS are set to plain missing (.) for respondents who did not respond to the current wave.

SwMONEY, SwMEDS, SwSHOP, and SwMEALS indicate whether the respondent's spouse reported any difficulty with instrumental activities of daily living and are taken directly from the spouse's RwMONEY, RwMEDS, RwSHOP, and RwMEALS variables, respectively. In addition to the special missing codes used in the Rw[iadl] variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include the instrumental activities of daily living (IADLs) regarding using the phone and using a map.

The HRS includes an additional question after the initial taking medication question if the respondent answered don't do to the first question. For these respondents the HRS asks "Do you think you would have any difficulty taking medications if you needed to do so?" If the respondent

answered no, RwmEDS in the RAND HRS is set to .z to indicate the respondent doesn't take medications but says s/he wouldn't have difficulty if s/he did. If the respondent answered yes, they are then asked the follow up question of whether this is because of a health problem. For respondents who answered that they would have difficulty taking medication and answered that this was because of a health problem, RwmEDS in the RAND HRS is set to 1 for "yes". For respondents who answered that they would have difficulty taking medication and answered that this was not because of a health problem, RwmEDS in the RAND HRS is set to 9 for "don't do". The MHAS does not include a question about whether the respondent would have difficulty taking medication if they don't take medication so RwmEDS in the Harmonized MHAS does include any recoding based on this sort of question.

## MHAS Variables Used

### Wave 1:

H26_1	hot meal
H27_1	shopping
H28_1	taking medication
H29_1	managing money

### Wave 2:

H26A	trouble preparing hot food
H27A	trouble shopping
H28A	trouble taking medicine
H29A	trouble managing money

### Wave 3:

H26A_12	Difficulty preparing hot food
H27A_12	Difficulty shopping
H28A_12	Difficulty taking medications
H29A_12	Difficulty managing money

### Wave 4:

H26A_15	Because of health problem, does respondent have any dif
H27A_15	Because of health problem, does respondent have any dif
H28A_15	Because of health problem, does respondent have any dif
H29A_15	Because of health problem, does respondent have any dif

<b>Instrumental Activities of Daily Living (IADLs): Some Difficulty</b>
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Wave	Variable	Label	Type
1	R1MONEYA	r1moneya: w1 R Some difficulty-Managing money	Categ
2	R2MONEYA	r2moneya: w2 R Some difficulty-Managing money	Categ
3	R3MONEYA	r3moneya: w3 R Some difficulty-Managing money	Categ
4	R4MONEYA	r4moneya: w4 R Some difficulty-Managing money	Categ
1	S1MONEYA	s1moneya: w1 S Some difficulty-Managing money	Categ
2	S2MONEYA	s2moneya: w2 S Some difficulty-Managing money	Categ
3	S3MONEYA	s3moneya: w3 S Some difficulty-Managing money	Categ
4	S4MONEYA	s4moneya: w4 S Some difficulty-Managing money	Categ
1	R1MEDSA	r1medsa: w1 R Some difficulty-Taking medications	Categ
2	R2MEDSA	r2medsa: w2 R Some difficulty-Taking medications	Categ
3	R3MEDSA	r3medsa: w3 R Some difficulty-Taking medications	Categ
4	R4MEDSA	r4medsa: w4 R Some difficulty-Taking medications	Categ
1	S1MEDSA	s1medsa: w1 S Some difficulty-Taking medications	Categ
2	S2MEDSA	s2medsa: w2 S Some difficulty-Taking medications	Categ
3	S3MEDSA	s3medsa: w3 S Some difficulty-Taking medications	Categ
4	S4MEDSA	s4medsa: w4 S Some difficulty-Taking medications	Categ
1	R1SHOPA	r1shopa: w1 R Some difficulty-Shopping for groceries	Categ
2	R2SHOPA	r2shopa: w2 R Some difficulty-Shopping for groceries	Categ
3	R3SHOPA	r3shopa: w3 R Some difficulty-Shopping for groceries	Categ
4	R4SHOPA	r4shopa: w4 R Some difficulty-Shopping for groceries	Categ
1	S1SHOPA	s1shopa: w1 S Some difficulty-Shopping for groceries	Categ
2	S2SHOPA	s2shopa: w2 S Some difficulty-Shopping for groceries	Categ
3	S3SHOPA	s3shopa: w3 S Some difficulty-Shopping for groceries	Categ
4	S4SHOPA	s4shopa: w4 S Some difficulty-Shopping for groceries	Categ
1	R1MEALSA	r1mealsa: w1 R Some difficulty-Preparing hot meals	Categ
2	R2MEALSA	r2mealsa: w2 R Some difficulty-Preparing hot meals	Categ
3	R3MEALSA	r3mealsa: w3 R Some difficulty-Preparing hot meals	Categ
4	R4MEALSA	r4mealsa: w4 R Some difficulty-Preparing hot meals	Categ
1	S1MEALSA	s1mealsa: w1 S Some difficulty-Preparing hot meals	Categ
2	S2MEALSA	s2mealsa: w2 S Some difficulty-Preparing hot meals	Categ
3	S3MEALSA	s3mealsa: w3 S Some difficulty-Preparing hot meals	Categ
4	S4MEALSA	s4mealsa: w4 S Some difficulty-Preparing hot meals	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MONEYA	14012	0.02	0.15	0.00	1.00
R2MONEYA	12485	0.02	0.15	0.00	1.00
R3MONEYA	14399	0.02	0.15	0.00	1.00
R4MONEYA	13739	0.03	0.17	0.00	1.00
S1MONEYA	9905	0.02	0.13	0.00	1.00
S2MONEYA	8725	0.02	0.13	0.00	1.00
S3MONEYA	9838	0.02	0.14	0.00	1.00
S4MONEYA	9129	0.02	0.15	0.00	1.00
R1MEDSA	14027	0.02	0.15	0.00	1.00
R2MEDSA	12465	0.02	0.15	0.00	1.00
R3MEDSA	14276	0.02	0.15	0.00	1.00
R4MEDSA	13619	0.03	0.18	0.00	1.00
S1MEDSA	9917	0.02	0.13	0.00	1.00
S2MEDSA	8707	0.02	0.13	0.00	1.00
S3MEDSA	9748	0.02	0.13	0.00	1.00
S4MEDSA	9050	0.03	0.16	0.00	1.00

R1SHOPA	13702	0.06	0.24	0.00	1.00
R2SHOPA	12261	0.07	0.25	0.00	1.00
R3SHOPA	14195	0.09	0.29	0.00	1.00
R4SHOPA	13525	0.10	0.31	0.00	1.00
S1SHOPA	9667	0.05	0.21	0.00	1.00
S2SHOPA	8560	0.05	0.21	0.00	1.00
S3SHOPA	9701	0.07	0.25	0.00	1.00
S4SHOPA	9012	0.08	0.26	0.00	1.00
R1MEALSA	13343	0.04	0.19	0.00	1.00
R2MEALSA	11914	0.04	0.20	0.00	1.00
R3MEALSA	13805	0.04	0.21	0.00	1.00
R4MEALSA	13281	0.05	0.23	0.00	1.00
S1MEALSA	9332	0.03	0.17	0.00	1.00
S2MEALSA	8252	0.03	0.17	0.00	1.00
S3MEALSA	9349	0.03	0.18	0.00	1.00
S4MEALSA	8779	0.04	0.19	0.00	1.00

### Categorical Variable Codes

Value-----	R1MONEYA	R2MONEYA	R3MONEYA	R4MONEYA
.d:DK	17		8	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	47	2	1	2
.x:Doesn't do	40	31	40	62
0.No	13693	12205	14056	13321
1.Yes	319	280	343	418

Value-----	S1MONEYA	S2MONEYA	S3MONEYA	S4MONEYA
.d:DK	13		4	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	33	2		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	24	17	24	38
0.No	9747	8577	9650	8922
1.Yes	158	148	188	207

Value-----	R1MEDSA	R2MEDSA	R3MEDSA	R4MEDSA
.d:DK	16		1	6
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	44	1	2	2
.x:Doesn't do	29	51	169	183
0.No	13692	12193	13944	13143
1.Yes	335	272	332	476

Value-----	S1MEDSA	S2MEDSA	S3MEDSA	S4MEDSA
.d:DK	11		1	6
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	30	1	1	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	17	36	116	115
0.No	9745	8568	9573	8815
1.Yes	172	139	175	235

Value-----	R1SHOPA	R2SHOPA	R3SHOPA	R4SHOPA
.d:DK	30		3	8
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	70	2	5	1
.x:Doesn't do	314	254	245	276
0.No	12858	11435	12924	12119
1.Yes	844	826	1271	1406

Value-----	S1SHOPA	S2SHOPA	S3SHOPA	S4SHOPA
.d:DK	21		1	6

.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	56	2	2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	231	182	162	154
0.No	9207	8158	9062	8331
1.Yes	460	402	639	681

Value-----	R1MEALSA	R2MEALSA	R3MEALSA	R4MEALSA
.d:DK	34		3	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	81	3	5	2
.x:Doesn't do	658	600	635	520
0.No	12841	11420	13190	12560
1.Yes	502	494	615	721

Value-----	S1MEALSA	S2MEALSA	S3MEALSA	S4MEALSA
.d:DK	28		3	7
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	67	2	3	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	548	490	511	386
0.No	9053	8016	9048	8452
1.Yes	279	236	301	327

## How Constructed

These variables indicate difficulty with instrumental activities of daily living (IADLs). The IADL variables include managing money (RwMONEYA), taking medications (RwMEDSA), shopping for groceries (RwSHOPA), and preparing meals (RwMEALSA).

A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that either the respondent reported some difficulty with the activity or the respondent answered "Can't Do" or "Don't do" to the initial question about the activity and they answered that this was because of a health problem in the follow-up question. A special missing value of .x indicates that the respondent answered "Can't Do" or "Don't do" to the initial question about the activity and they answered that this was not because of a health problem in the follow-up question. When respondents indicated "don't know" or refused to answer the Rw[iadl]A variables are assigned special missing values .d or .r, respectively. RwMONEYA, RwMEDSA, RwSHOPA, and RwMEALSA are set to special missing .p for proxy interviews to .m for other missing answers, and to plain missing (.) for respondents who did not respond to the current wave.

SwMONEYA, SwMEDSA, SwSHOPA, and SwMEALSA indicate whether the respondent's spouse reported any difficulty with each one of these instrumental activities of daily living and are taken directly from the spouse's Rw[iadl]A variables, respectively. In addition to the special missing codes used in the Rw[iadl]A variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Some of these variables are used to construct a number of IADL summary indices. Please see "IADLs Summary" and "Other Summary Indices".

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include the instrumental activities of daily living (IADLs) regarding using the phone and using a map.

The HRS includes an additional question after the initial taking medication question if the respondent answered don't do to the first question. For these respondents the HRS asks "Do you think you would have any difficulty taking medications if you needed to do so?" If the respondent answered no, RwMEDSA in the RAND HRS is set to .z to indicate the respondent doesn't take medications but says s/he wouldn't have difficulty if s/he did. If the respondent answered yes,

they are then asked the follow up question of whether this is because of a health problem. For respondents who answered that they would have difficulty taking medication and answered that this was because of a health problem, RwMEDSA in the RAND HRS is set to 1 for "yes". For respondents who answered that they would have difficulty taking medication and answered that this was not because of a health problem, RwMEDSA in the RAND HRS is set to .x. The MHAS does not include a question about whether the respondent would have difficulty taking medication if they don't take medication so RwMEDSA in the Harmonized MHAS does include any recoding based on this sort of question.

## MHAS Variables Used

### Wave 1:

H26_1	hot meal
H26_2	health prevents preparing hot meal
H27_1	shopping
H27_2	health prevents shopping
H28_1	taking medication
H28_2	health prevents taking medication
H29_1	managing money
H29_2	health prevents managing money

### Wave 2:

H26A	trouble preparing hot food
H26B	this is due to a health problem
H27A	trouble shopping
H27B	this is due to a health problem
H28A	trouble taking medicine
H28B	this is due to a health problem
H29A	trouble managing money
H29B	this is due to a health problem

### Wave 3:

H26A_12	Difficulty preparing hot food
H26B_12	Difficulty preparing hot food due to a health problem
H27A_12	Difficulty shopping
H27B_12	Difficulty shopping due to a health problem
H28A_12	Difficulty taking medications
H28B_12	Difficulty taking medications due to a health problem
H29A_12	Difficulty managing money
H29B_12	Difficulty managing money due to a health problem

### Wave 4:

H26A_15	Because of health problem, does respondent have any dif
H26B_15	Is this (difficulty preparing a hot meal) because of a
H27A_15	Because of health problem, does respondent have any dif
H27B_15	Is this (shopping for groceries) because of a health pr
H28A_15	Because of health problem, does respondent have any dif
H28B_15	Is this (taking medications) because of a health proble
H29A_15	Because of health problem, does respondent have any dif
H29B_15	Is this (managing his/her money) because of a health pr

<b>Other Functional Limitations: Raw Recodes</b>
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Wave	Variable	Label	Type
1	R1WALKS	r1walks: w1 R Difficulty-Walking several blocks	Categ
2	R2WALKS	r2walks: w2 R Difficulty-Walking several blocks	Categ
3	R3WALKS	r3walks: w3 R Difficulty-Walking several blocks	Categ
4	R4WALKS	r4walks: w4 R Difficulty-Walking several blocks	Categ
1	S1WALKS	s1walks: w1 S Difficulty-Walking several blocks	Categ
2	S2WALKS	s2walks: w2 S Difficulty-Walking several blocks	Categ
3	S3WALKS	s3walks: w3 S Difficulty-Walking several blocks	Categ
4	S4WALKS	s4walks: w4 S Difficulty-Walking several blocks	Categ
1	R1JOG	r1jog: w1 R Difficulty-Run/Jogging one km	Categ
2	R2JOG	r2jog: w2 R Difficulty-Run/Jogging one km	Categ
3	R3JOG	r3jog: w3 R Difficulty-Run/Jogging one km	Categ
4	R4JOG	r4jog: w4 R Difficulty-Run/Jogging one km	Categ
1	S1JOG	s1jog: w1 S Difficulty-Run/Jogging one km	Categ
2	S2JOG	s2jog: w2 S Difficulty-Run/Jogging one km	Categ
3	S3JOG	s3jog: w3 S Difficulty-Run/Jogging one km	Categ
4	S4JOG	s4jog: w4 S Difficulty-Run/Jogging one km	Categ
1	R1WALK1	r1walk1: w1 R Difficulty-Walking one block	Categ
2	R2WALK1	r2walk1: w2 R Difficulty-Walking one block	Categ
3	R3WALK1	r3walk1: w3 R Difficulty-Walking one block	Categ
4	R4WALK1	r4walk1: w4 R Difficulty-Walking one block	Categ
1	S1WALK1	s1walk1: w1 S Difficulty-Walking one block	Categ
2	S2WALK1	s2walk1: w2 S Difficulty-Walking one block	Categ
3	S3WALK1	s3walk1: w3 S Difficulty-Walking one block	Categ
4	S4WALK1	s4walk1: w4 S Difficulty-Walking one block	Categ
1	R1SIT	r1sit: w1 R Difficulty-Sitting for 2 hours	Categ
2	R2SIT	r2sit: w2 R Difficulty-Sitting for 2 hours	Categ
3	R3SIT	r3sit: w3 R Difficulty-Sitting for 2 hours	Categ
4	R4SIT	r4sit: w4 R Difficulty-Sitting for 2 hours	Categ
1	S1SIT	s1sit: w1 S Difficulty-Sitting for 2 hours	Categ
2	S2SIT	s2sit: w2 S Difficulty-Sitting for 2 hours	Categ
3	S3SIT	s3sit: w3 S Difficulty-Sitting for 2 hours	Categ
4	S4SIT	s4sit: w4 S Difficulty-Sitting for 2 hours	Categ
1	R1CHAIR	r1chair: w1 R Difficulty-Getting up from chair	Categ
2	R2CHAIR	r2chair: w2 R Difficulty-Getting up from chair	Categ
3	R3CHAIR	r3chair: w3 R Difficulty-Getting up from chair	Categ
4	R4CHAIR	r4chair: w4 R Difficulty-Getting up from chair	Categ
1	S1CHAIR	s1chair: w1 S Difficulty-Getting up from chair	Categ
2	S2CHAIR	s2chair: w2 S Difficulty-Getting up from chair	Categ
3	S3CHAIR	s3chair: w3 S Difficulty-Getting up from chair	Categ
4	S4CHAIR	s4chair: w4 S Difficulty-Getting up from chair	Categ
1	R1CLIMS	r1clims: w1 R Difficulty-Climbing sev flts stairs	Categ
2	R2CLIMS	r2clims: w2 R Difficulty-Climbing sev flts stairs	Categ
3	R3CLIMS	r3clims: w3 R Difficulty-Climbing sev flts stairs	Categ
4	R4CLIMS	r4clims: w4 R Difficulty-Climbing sev flts stairs	Categ
1	S1CLIMS	s1clims: w1 S Difficulty-Climbing sev flts stairs	Categ
2	S2CLIMS	s2clims: w2 S Difficulty-Climbing sev flts stairs	Categ
3	S3CLIMS	s3clims: w3 S Difficulty-Climbing sev flts stairs	Categ
4	S4CLIMS	s4clims: w4 S Difficulty-Climbing sev flts stairs	Categ
1	R1CLIM1	r1clim1: w1 R Difficulty-Climbing one flt stairs	Categ
2	R2CLIM1	r2clim1: w2 R Difficulty-Climbing one flt stairs	Categ
3	R3CLIM1	r3clim1: w3 R Difficulty-Climbing one flt stairs	Categ



4	R4CLIM1	r4clim1: w4 R	Difficulty-Climbing one flt stairs	Categ
1	S1CLIM1	s1clim1: w1 S	Difficulty-Climbing one flt stairs	Categ
2	S2CLIM1	s2clim1: w2 S	Difficulty-Climbing one flt stairs	Categ
3	S3CLIM1	s3clim1: w3 S	Difficulty-Climbing one flt stairs	Categ
4	S4CLIM1	s4clim1: w4 S	Difficulty-Climbing one flt stairs	Categ
1	R1STOOP	r1stoop: w1 R	Difficulty-Stoop/kneel/crouching	Categ
2	R2STOOP	r2stoop: w2 R	Difficulty-Stoop/kneel/crouching	Categ
3	R3STOOP	r3stoop: w3 R	Difficulty-Stoop/kneel/crouching	Categ
4	R4STOOP	r4stoop: w4 R	Difficulty-Stoop/kneel/crouching	Categ
1	S1STOOP	s1stoop: w1 S	Difficulty-Stoop/kneel/crouching	Categ
2	S2STOOP	s2stoop: w2 S	Difficulty-Stoop/kneel/crouching	Categ
3	S3STOOP	s3stoop: w3 S	Difficulty-Stoop/kneel/crouching	Categ
4	S4STOOP	s4stoop: w4 S	Difficulty-Stoop/kneel/crouching	Categ
1	R1LIFT	r1lift: w1 R	Difficulty-Lift/carrying 5 kgs	Categ
2	R2LIFT	r2lift: w2 R	Difficulty-Lift/carrying 5 kgs	Categ
3	R3LIFT	r3lift: w3 R	Difficulty-Lift/carrying 5 kgs	Categ
4	R4LIFT	r4lift: w4 R	Difficulty-Lift/carrying 5 kgs	Categ
1	S1LIFT	s1lift: w1 S	Difficulty-Lift/carrying 5 kgs	Categ
2	S2LIFT	s2lift: w2 S	Difficulty-Lift/carrying 5 kgs	Categ
3	S3LIFT	s3lift: w3 S	Difficulty-Lift/carrying 5 kgs	Categ
4	S4LIFT	s4lift: w4 S	Difficulty-Lift/carrying 5 kgs	Categ
1	R1DIME	r1dime: w1 R	Difficulty-Picking up a coin	Categ
2	R2DIME	r2dime: w2 R	Difficulty-Picking up a coin	Categ
3	R3DIME	r3dime: w3 R	Difficulty-Picking up a coin	Categ
4	R4DIME	r4dime: w4 R	Difficulty-Picking up a coin	Categ
1	S1DIME	s1dime: w1 S	Difficulty-Picking up a coin	Categ
2	S2DIME	s2dime: w2 S	Difficulty-Picking up a coin	Categ
3	S3DIME	s3dime: w3 S	Difficulty-Picking up a coin	Categ
4	S4DIME	s4dime: w4 S	Difficulty-Picking up a coin	Categ
1	R1ARMS	r1arms: w1 R	Difficulty-Reach/extending arms up	Categ
2	R2ARMS	r2arms: w2 R	Difficulty-Reach/extending arms up	Categ
3	R3ARMS	r3arms: w3 R	Difficulty-Reach/extending arms up	Categ
4	R4ARMS	r4arms: w4 R	Difficulty-Reach/extending arms up	Categ
1	S1ARMS	s1arms: w1 S	Difficulty-Reach/extending arms up	Categ
2	S2ARMS	s2arms: w2 S	Difficulty-Reach/extending arms up	Categ
3	S3ARMS	s3arms: w3 S	Difficulty-Reach/extending arms up	Categ
4	S4ARMS	s4arms: w4 S	Difficulty-Reach/extending arms up	Categ
1	R1PUSH	r1push: w1 R	Difficulty-Push/pulling large objects	Categ
2	R2PUSH	r2push: w2 R	Difficulty-Push/pulling large objects	Categ
3	R3PUSH	r3push: w3 R	Difficulty-Push/pulling large objects	Categ
4	R4PUSH	r4push: w4 R	Difficulty-Push/pulling large objects	Categ
1	S1PUSH	s1push: w1 S	Difficulty-Push/pulling large objects	Categ
2	S2PUSH	s2push: w2 S	Difficulty-Push/pulling large objects	Categ
3	S3PUSH	s3push: w3 S	Difficulty-Push/pulling large objects	Categ
4	S4PUSH	s4push: w4 S	Difficulty-Push/pulling large objects	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKS	14098	0.30	0.80	0.00	9.00
R2WALKS	12500	0.33	0.93	0.00	9.00
R3WALKS	14444	0.32	0.76	0.00	9.00
R4WALKS	13804	0.39	1.00	0.00	9.00
S1WALKS	9964	0.26	0.73	0.00	9.00
S2WALKS	8736	0.28	0.82	0.00	9.00
S3WALKS	9865	0.27	0.67	0.00	9.00

## Section B: Health

S4WALKS	9167	0.33	0.87	0.00	9.00
R1JOG	13931	2.26	3.42	0.00	9.00
R2JOG	12431	2.35	3.46	0.00	9.00
R3JOG	14393	1.68	2.90	0.00	9.00
R4JOG	13790	1.90	3.06	0.00	9.00
S1JOG	9845	2.20	3.41	0.00	9.00
S2JOG	8689	2.27	3.44	0.00	9.00
S3JOG	9828	1.61	2.87	0.00	9.00
S4JOG	9160	1.80	3.03	0.00	9.00
R1WALK1	13999	0.16	0.73	0.00	9.00
R2WALK1	12500	0.16	0.75	0.00	9.00
R3WALK1	14443	0.15	0.56	0.00	9.00
R4WALK1	13804	0.19	0.72	0.00	9.00
S1WALK1	9894	0.13	0.68	0.00	9.00
S2WALK1	8736	0.13	0.62	0.00	9.00
S3WALK1	9864	0.12	0.46	0.00	9.00
S4WALK1	9167	0.15	0.61	0.00	9.00
R1SIT	14094	0.21	0.65	0.00	9.00
R2SIT	12501	0.18	0.55	0.00	9.00
R3SIT	14445	0.23	0.65	0.00	9.00
R4SIT	13801	0.24	0.62	0.00	9.00
S1SIT	9958	0.19	0.63	0.00	9.00
S2SIT	8737	0.17	0.56	0.00	9.00
S3SIT	9864	0.21	0.64	0.00	9.00
S4SIT	9166	0.22	0.58	0.00	9.00
R1CHAIR	14095	0.29	0.58	0.00	9.00
R2CHAIR	12499	0.25	0.54	0.00	9.00
R3CHAIR	14446	0.31	0.55	0.00	9.00
R4CHAIR	13803	0.36	0.60	0.00	9.00
S1CHAIR	9959	0.27	0.57	0.00	9.00
S2CHAIR	8736	0.23	0.53	0.00	9.00
S3CHAIR	9865	0.29	0.57	0.00	9.00
S4CHAIR	9167	0.34	0.55	0.00	9.00
R1CLIMS	13915	1.32	2.64	0.00	9.00
R2CLIMS	12437	1.42	2.80	0.00	9.00
R3CLIMS	14416	1.13	2.38	0.00	9.00
R4CLIMS	13794	1.14	2.32	0.00	9.00
S1CLIMS	9828	1.29	2.66	0.00	9.00
S2CLIMS	8698	1.34	2.74	0.00	9.00
S3CLIMS	9845	1.06	2.34	0.00	9.00
S4CLIMS	9159	1.01	2.18	0.00	9.00
R1CLIM1	13973	0.46	1.53	0.00	9.00
R2CLIM1	12477	0.48	1.59	0.00	9.00
R3CLIM1	14426	0.64	1.87	0.00	9.00
R4CLIM1	13798	0.61	1.75	0.00	9.00
S1CLIM1	9871	0.41	1.46	0.00	9.00
S2CLIM1	8723	0.42	1.51	0.00	9.00
S3CLIM1	9853	0.59	1.82	0.00	9.00
S4CLIM1	9163	0.51	1.59	0.00	9.00
R1STOOP	14095	0.40	0.78	0.00	9.00
R2STOOP	12496	0.39	0.81	0.00	9.00
R3STOOP	14445	0.47	0.82	0.00	9.00
R4STOOP	13803	0.54	0.92	0.00	9.00
S1STOOP	9958	0.37	0.74	0.00	9.00
S2STOOP	8734	0.35	0.76	0.00	9.00

Section B: Health

S3STOOP	9865	0.42	0.74	0.00	9.00
S4STOOP	9167	0.48	0.79	0.00	9.00
R1LIFT	14102	0.29	1.02	0.00	9.00
R2LIFT	12494	0.30	1.04	0.00	9.00
R3LIFT	14442	0.37	1.14	0.00	9.00
R4LIFT	13803	0.49	1.41	0.00	9.00
S1LIFT	9967	0.23	0.87	0.00	9.00
S2LIFT	8734	0.23	0.88	0.00	9.00
S3LIFT	9864	0.30	0.99	0.00	9.00
S4LIFT	9167	0.37	1.18	0.00	9.00
R1DIME	14091	0.07	0.39	0.00	9.00
R2DIME	12501	0.07	0.37	0.00	9.00
R3DIME	14445	0.08	0.34	0.00	9.00
R4DIME	13802	0.08	0.40	0.00	9.00
S1DIME	9960	0.05	0.34	0.00	9.00
S2DIME	8737	0.05	0.33	0.00	9.00
S3DIME	9864	0.07	0.31	0.00	9.00
S4DIME	9165	0.07	0.38	0.00	9.00
R1ARMS	14097	0.12	0.47	0.00	9.00
R2ARMS	12500	0.11	0.36	0.00	9.00
R3ARMS	14446	0.14	0.39	0.00	9.00
R4ARMS	13804	0.16	0.44	0.00	9.00
S1ARMS	9961	0.11	0.41	0.00	9.00
S2ARMS	8736	0.09	0.31	0.00	9.00
S3ARMS	9865	0.12	0.36	0.00	9.00
S4ARMS	9167	0.14	0.40	0.00	9.00
R1PUSH	14098	0.35	1.19	0.00	9.00
R2PUSH	12499	0.34	1.21	0.00	9.00
R3PUSH	14445	0.43	1.32	0.00	9.00
R4PUSH	13803	0.49	1.41	0.00	9.00
S1PUSH	9963	0.28	1.04	0.00	9.00
S2PUSH	8737	0.28	1.08	0.00	9.00
S3PUSH	9865	0.36	1.17	0.00	9.00
S4PUSH	9166	0.39	1.22	0.00	9.00

Categorical Variable Codes

Value-----	R1WALKS	R2WALKS	R3WALKS	R4WALKS
.d:DK	6	1	3	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12		1	1
0.No	10634	9382	10487	9638
1.Yes	3322	2950	3847	3893
2.Can't Do	60	57	40	130
9.Don't Do	82	111	70	143

Value-----	S1WALKS	S2WALKS	S3WALKS	S4WALKS
.d:DK	5	1	1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	6			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	7769	6811	7446	6722
1.Yes	2116	1838	2365	2306
2.Can't Do	33	31	20	73
9.Don't Do	46	56	34	66

Value-----	R1JOG	R2JOG	R3JOG	R4JOG
.d:DK	114	52	46	17
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929

.r:Refuse	71	18	9	3
0.No	5102	4358	5631	4881
1.Yes	5802	5170	6694	6476
2.Can't Do	219	299	164	320
9.Don't Do	2808	2604	1904	2113
Value-----	S1JOG	S2JOG	S3JOG	S4JOG
.d:DK	85	35	34	10
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	45	13	4	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	3887	3340	4191	3588
1.Yes	3867	3380	4279	4026
2.Can't Do	142	194	100	201
9.Don't Do	1949	1775	1258	1345
Value-----	R1WALK1	R2WALK1	R3WALK1	R4WALK1
.d:DK	26		3	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	91	1	2	1
0.No	12476	11067	12559	11772
1.Yes	1395	1311	1816	1856
2.Can't Do	51	50	32	109
9.Don't Do	77	72	36	67
Value-----	S1WALK1	S2WALK1	S3WALK1	S4WALK1
.d:DK	16		1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	65	1	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8972	7929	8791	8049
1.Yes	845	741	1045	1029
2.Can't Do	30	33	14	60
9.Don't Do	47	33	14	29
Value-----	R1SIT	R2SIT	R3SIT	R4SIT
.d:DK	7		2	8
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	15		1	1
0.No	11560	10504	11594	10856
1.Yes	2473	1945	2783	2890
2.Can't Do	12	25	18	17
9.Don't Do	49	27	50	38
Value-----	S1SIT	S2SIT	S3SIT	S4SIT
.d:DK	4		2	6
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	13			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8318	7430	8036	7289
1.Yes	1599	1271	1782	1847
2.Can't Do	7	15	13	9
9.Don't Do	34	21	33	21
Value-----	R1CHAIR	R2CHAIR	R3CHAIR	R4CHAIR
.d:DK	7	2	1	6
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	14		1	1
0.No	10272	9526	10089	9058
1.Yes	3784	2933	4318	4675
2.Can't Do	13	22	21	46
9.Don't Do	26	18	18	24
Value-----	S1CHAIR	S2CHAIR	S3CHAIR	S4CHAIR
.d:DK	5	1	1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	11			
.u:Unmar	4205	4009	4782	4847

.v:SP NR	333	131	349	280
0.No	7459	6825	7089	6159
1.Yes	2475	1885	2749	2976
2.Can't Do	7	14	12	22
9.Don't Do	18	12	15	10
Value-----	R1CLIMS	R2CLIMS	R3CLIMS	R4CLIMS
.d:DK	115	61	30	15
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	86	3	2	1
0.No	7158	6523	7491	6762
1.Yes	5178	4275	5659	5715
2.Can't Do	152	188	109	263
9.Don't Do	1427	1451	1157	1054
Value-----	S1CLIMS	S2CLIMS	S3CLIMS	S4CLIMS
.d:DK	85	36	20	13
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	62	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	5346	4842	5465	4875
1.Yes	3370	2783	3576	3547
2.Can't Do	95	115	50	138
9.Don't Do	1017	958	754	599
Value-----	R1CLIM1	R2CLIM1	R3CLIM1	R4CLIM1
.d:DK	58	19	20	10
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	85	5	2	2
0.No	10848	9710	10474	9831
1.Yes	2631	2283	3210	3224
2.Can't Do	88	89	91	205
9.Don't Do	406	395	651	538
Value-----	S1CLIM1	S2CLIM1	S3CLIM1	S4CLIM1
.d:DK	46	10	12	9
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	58	4	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	7947	7053	7474	6900
1.Yes	1614	1369	1918	1870
2.Can't Do	52	57	41	108
9.Don't Do	258	244	420	285
Value-----	R1STOOP	R2STOOP	R3STOOP	R4STOOP
.d:DK	9	4	2	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12	1	1	2
0.No	9071	8292	8446	7504
1.Yes	4844	4036	5785	5935
2.Can't Do	112	98	134	256
9.Don't Do	68	70	80	108
Value-----	S1STOOP	S2STOOP	S3STOOP	S4STOOP
.d:DK	7	2	1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6704	6039	6114	5264
1.Yes	3148	2598	3637	3731
2.Can't Do	65	57	74	127
9.Don't Do	41	40	40	45
Value-----	R1LIFT	R2LIFT	R3LIFT	R4LIFT
.d:DK	6	7	3	6
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	8		3	1
0.No	11355	10094	10837	9855

1.Yes	2500	2169	3289	3395
2.Can't Do	88	80	104	224
9.Don't Do	159	151	212	329
Value-----	S1LIFT	S2LIFT	S3LIFT	S4LIFT
.d:DK	3	3	2	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	5			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8378	7364	7803	7018
1.Yes	1456	1253	1907	1900
2.Can't Do	53	45	51	105
9.Don't Do	80	72	103	144
Value-----	R1DIME	R2DIME	R3DIME	R4DIME
.d:DK	9		2	7
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	16		1	1
0.No	13324	11785	13391	12796
1.Yes	731	683	1014	956
2.Can't Do	19	21	32	35
9.Don't Do	17	12	8	15
Value-----	S1DIME	S2DIME	S3DIME	S4DIME
.d:DK	5		2	7
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9513	8341	9245	8579
1.Yes	431	378	596	557
2.Can't Do	7	11	19	20
9.Don't Do	9	7	4	9
Value-----	R1ARMS	R2ARMS	R3ARMS	R4ARMS
.d:DK	7		1	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12	1	1	1
0.No	12539	11238	12488	11721
1.Yes	1514	1238	1921	2020
2.Can't Do	23	18	32	53
9.Don't Do	21	6	5	10
Value-----	S1ARMS	S2ARMS	S3ARMS	S4ARMS
.d:DK	4		1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8990	7946	8672	7942
1.Yes	944	777	1172	1192
2.Can't Do	17	12	19	29
9.Don't Do	10	1	2	4
Value-----	R1PUSH	R2PUSH	R3PUSH	R4PUSH
.d:DK	7	2	2	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	11		1	2
0.No	11096	10000	10663	9838
1.Yes	2680	2210	3378	3429
2.Can't Do	94	77	109	206
9.Don't Do	228	212	295	330
Value-----	S1PUSH	S2PUSH	S3PUSH	S4PUSH
.d:DK	4		1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	8			1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8175	7261	7641	6926

1.Yes	1612	1316	2020	1978
2.Can't Do	57	44	48	105
9.Don't Do	119	116	156	157

## How Constructed

These variables recode the raw variables for difficulty with functional limitations other than ADLs and IADLs as they appear in the MHAS data except for missing values and accounting for skip patterns. The other functional limitations include walking several blocks (RwWALKS), running and jogging one kilometer (RwJOG), walking one block (RwWALK1), sitting for about 2 hours (RwSIT), getting up from a chair after sitting for long periods (RwCHAIR), climbing several flights of stairs without resting (RwCLIMS), climbing one flight of stairs without resting (RwCLIM1), stooping/kneeling/or crouching (RwSTOOP), reaching arms above shoulder level (RwARMS), pushing or pulling large objects (RwPUSH), lifting or carrying weights over 5 kilos (RwLIFT), and picking up a small coin (one peso) from the table (RwDIME).

A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates some difficulty with the activity, and 2 or 9 indicate "can't do" or "don't do", respectively. RwWALKS, RwJOG, RwWALK1, RwsIT, RwCHAIR, RwCLIMS, RwCLIM1, RwSTOOP, RwARMS, RwPUSH, RwLIFT, and RwDIME are assigned special missing values .d for "don't know", .r for refusals, .p for proxy interviews, .m for missing, and are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKS, SwJOG, SwWALK1, SwSIT, SwCHAIR, SwCLIMS, SwCLIM1, SwSTOOP, SwARMS, SwPUSH, SwLIFT, and SwDIME indicate whether the respondent's spouse reported any difficulty with such activities and are taken directly from the spouse's RwWALKS, RwJOG, RwWALK1, RwsIT, RwCHAIR, RwCLIMS, RwCLIM1, RwSTOOP, RwARMS, RwPUSH, RwLIFT, and RwDIME variables, respectively. In addition to the special missing codes used in RwWALKS, RwJOG, RwWALK1, RwsIT, RwCHAIR, RwCLIMS, RwCLIM1, RwSTOOP, RwARMS, RwPUSH, RwLIFT, and RwDIME, SwWALKS, SwJOG, SwWALK1, SwSIT, SwCHAIR, SwCLIMS, SwCLIM1, SwSTOOP, SwARMS, SwPUSH, SwLIFT, and SwDIME employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

### Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H2	running
H3	short walk
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

### Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H2	health problems-trouble running
H3	health problems-trouble walking a block
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs

H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

## Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H1_12	Because of health problem, difficulty walking blocks
H2_12	Because of health problem, difficulty running
H3_12	Because of health problem, difficulty walking a block
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms

## Wave 4:

H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H1_15	Because of health problem, does respondent have difficu
H2_15	Because of health problem, does respondent have difficu
H3_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu



<b>Other Functional Limitations: Some Difficulty</b>
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Wave	Variable	Label	Type
1	R1WALKSA	r1walksa: w1 R Some difficulty-Walking several blocks	Categ
2	R2WALKSA	r2walksa: w2 R Some difficulty-Walking several blocks	Categ
3	R3WALKSA	r3walksa: w3 R Some difficulty-Walking several blocks	Categ
4	R4WALKSA	r4walksa: w4 R Some difficulty-Walking several blocks	Categ
1	S1WALKSA	s1walksa: w1 S Some difficulty-Walking several blocks	Categ
2	S2WALKSA	s2walksa: w2 S Some difficulty-Walking several blocks	Categ
3	S3WALKSA	s3walksa: w3 S Some difficulty-Walking several blocks	Categ
4	S4WALKSA	s4walksa: w4 S Some difficulty-Walking several blocks	Categ
1	R1JOGA	r1joga: w1 R Some difficulty-Run/Jogging one km	Categ
2	R2JOGA	r2joga: w2 R Some difficulty-Run/Jogging one km	Categ
3	R3JOGA	r3joga: w3 R Some difficulty-Run/Jogging one km	Categ
4	R4JOGA	r4joga: w4 R Some difficulty-Run/Jogging one km	Categ
1	S1JOGA	s1joga: w1 S Some difficulty-Run/Jogging one km	Categ
2	S2JOGA	s2joga: w2 S Some difficulty-Run/Jogging one km	Categ
3	S3JOGA	s3joga: w3 S Some difficulty-Run/Jogging one km	Categ
4	S4JOGA	s4joga: w4 S Some difficulty-Run/Jogging one km	Categ
1	R1WALK1A	r1walk1a: w1 R Some difficulty-Walking one block	Categ
2	R2WALK1A	r2walk1a: w2 R Some difficulty-Walking one block	Categ
3	R3WALK1A	r3walk1a: w3 R Some difficulty-Walking one block	Categ
4	R4WALK1A	r4walk1a: w4 R Some difficulty-Walking one block	Categ
1	S1WALK1A	s1walk1a: w1 S Some difficulty-Walking one block	Categ
2	S2WALK1A	s2walk1a: w2 S Some difficulty-Walking one block	Categ
3	S3WALK1A	s3walk1a: w3 S Some difficulty-Walking one block	Categ
4	S4WALK1A	s4walk1a: w4 S Some difficulty-Walking one block	Categ
1	R1SITA	r1sita: w1 R Some difficulty-Sitting for 2 hours	Categ
2	R2SITA	r2sita: w2 R Some difficulty-Sitting for 2 hours	Categ
3	R3SITA	r3sita: w3 R Some difficulty-Sitting for 2 hours	Categ
4	R4SITA	r4sita: w4 R Some difficulty-Sitting for 2 hours	Categ
1	S1SITA	s1sita: w1 S Some difficulty-Sitting for 2 hours	Categ
2	S2SITA	s2sita: w2 S Some difficulty-Sitting for 2 hours	Categ
3	S3SITA	s3sita: w3 S Some difficulty-Sitting for 2 hours	Categ
4	S4SITA	s4sita: w4 S Some difficulty-Sitting for 2 hours	Categ
1	R1CHAIRA	r1chaira: w1 R Some difficulty-Getting up from chair	Categ
2	R2CHAIRA	r2chaira: w2 R Some difficulty-Getting up from chair	Categ
3	R3CHAIRA	r3chaira: w3 R Some difficulty-Getting up from chair	Categ
4	R4CHAIRA	r4chaira: w4 R Some difficulty-Getting up from chair	Categ
1	S1CHAIRA	s1chaira: w1 S Some difficulty-Getting up from chair	Categ
2	S2CHAIRA	s2chaira: w2 S Some difficulty-Getting up from chair	Categ
3	S3CHAIRA	s3chaira: w3 S Some difficulty-Getting up from chair	Categ
4	S4CHAIRA	s4chaira: w4 S Some difficulty-Getting up from chair	Categ
1	R1CLIMSA	r1climsa: w1 R Some difficulty-Climbing sev flts stairs	Categ
2	R2CLIMSA	r2climsa: w2 R Some difficulty-Climbing sev flts stairs	Categ
3	R3CLIMSA	r3climsa: w3 R Some difficulty-Climbing sev flts stairs	Categ
4	R4CLIMSA	r4climsa: w4 R Some difficulty-Climbing sev flts stairs	Categ
1	S1CLIMSA	s1climsa: w1 S Some difficulty-Climbing sev flts stairs	Categ
2	S2CLIMSA	s2climsa: w2 S Some difficulty-Climbing sev flts stairs	Categ
3	S3CLIMSA	s3climsa: w3 S Some difficulty-Climbing sev flts stairs	Categ
4	S4CLIMSA	s4climsa: w4 S Some difficulty-Climbing sev flts stairs	Categ
1	R1CLIM1A	r1clim1a: w1 R Some difficulty-Climbing one flt stairs	Categ
2	R2CLIM1A	r2clim1a: w2 R Some difficulty-Climbing one flt stairs	Categ
3	R3CLIM1A	r3clim1a: w3 R Some difficulty-Climbing one flt stairs	Categ

4	R4CLIM1A	r4clim1a: w4 R	Some difficulty-Climbing one flt stairs	Categ
1	S1CLIM1A	s1clim1a: w1 S	Some difficulty-Climbing one flt stairs	Categ
2	S2CLIM1A	s2clim1a: w2 S	Some difficulty-Climbing one flt stairs	Categ
3	S3CLIM1A	s3clim1a: w3 S	Some difficulty-Climbing one flt stairs	Categ
4	S4CLIM1A	s4clim1a: w4 S	Some difficulty-Climbing one flt stairs	Categ
1	R1STOOPA	r1stoopa: w1 R	Some difficulty-Stoop/kneel/crouching	Categ
2	R2STOOPA	r2stoopa: w2 R	Some difficulty-Stoop/kneel/crouching	Categ
3	R3STOOPA	r3stoopa: w3 R	Some difficulty-Stoop/kneel/crouching	Categ
4	R4STOOPA	r4stoopa: w4 R	Some difficulty-Stoop/kneel/crouching	Categ
1	S1STOOPA	s1stoopa: w1 S	Some difficulty-Stoop/kneel/crouching	Categ
2	S2STOOPA	s2stoopa: w2 S	Some difficulty-Stoop/kneel/crouching	Categ
3	S3STOOPA	s3stoopa: w3 S	Some difficulty-Stoop/kneel/crouching	Categ
4	S4STOOPA	s4stoopa: w4 S	Some difficulty-Stoop/kneel/crouching	Categ
1	R1LIFTA	r1lifta: w1 R	Some difficulty-Lift/carrying 5 kgs	Categ
2	R2LIFTA	r2lifta: w2 R	Some difficulty-Lift/carrying 5 kgs	Categ
3	R3LIFTA	r3lifta: w3 R	Some difficulty-Lift/carrying 5 kgs	Categ
4	R4LIFTA	r4lifta: w4 R	Some difficulty-Lift/carrying 5 kgs	Categ
1	S1LIFTA	s1lifta: w1 S	Some difficulty-Lift/carrying 5 kgs	Categ
2	S2LIFTA	s2lifta: w2 S	Some difficulty-Lift/carrying 5 kgs	Categ
3	S3LIFTA	s3lifta: w3 S	Some difficulty-Lift/carrying 5 kgs	Categ
4	S4LIFTA	s4lifta: w4 S	Some difficulty-Lift/carrying 5 kgs	Categ
1	R1DIMEA	r1dimea: w1 R	Some difficulty-Picking up a coin	Categ
2	R2DIMEA	r2dimea: w2 R	Some difficulty-Picking up a coin	Categ
3	R3DIMEA	r3dimea: w3 R	Some difficulty-Picking up a coin	Categ
4	R4DIMEA	r4dimea: w4 R	Some difficulty-Picking up a coin	Categ
1	S1DIMEA	s1dimea: w1 S	Some difficulty-Picking up a coin	Categ
2	S2DIMEA	s2dimea: w2 S	Some difficulty-Picking up a coin	Categ
3	S3DIMEA	s3dimea: w3 S	Some difficulty-Picking up a coin	Categ
4	S4DIMEA	s4dimea: w4 S	Some difficulty-Picking up a coin	Categ
1	R1ARMSA	r1armsa: w1 R	Some difficulty-Reach/extending arms up	Categ
2	R2ARMSA	r2armsa: w2 R	Some difficulty-Reach/extending arms up	Categ
3	R3ARMSA	r3armsa: w3 R	Some difficulty-Reach/extending arms up	Categ
4	R4ARMSA	r4armsa: w4 R	Some difficulty-Reach/extending arms up	Categ
1	S1ARMSA	s1armsa: w1 S	Some difficulty-Reach/extending arms up	Categ
2	S2ARMSA	s2armsa: w2 S	Some difficulty-Reach/extending arms up	Categ
3	S3ARMSA	s3armsa: w3 S	Some difficulty-Reach/extending arms up	Categ
4	S4ARMSA	s4armsa: w4 S	Some difficulty-Reach/extending arms up	Categ
1	R1PUSHA	r1pusha: w1 R	Some difficulty-Push/pulling large objects	Categ
2	R2PUSHA	r2pusha: w2 R	Some difficulty-Push/pulling large objects	Categ
3	R3PUSHA	r3pusha: w3 R	Some difficulty-Push/pulling large objects	Categ
4	R4PUSHA	r4pusha: w4 R	Some difficulty-Push/pulling large objects	Categ
1	S1PUSHA	s1pusha: w1 S	Some difficulty-Push/pulling large objects	Categ
2	S2PUSHA	s2pusha: w2 S	Some difficulty-Push/pulling large objects	Categ
3	S3PUSHA	s3pusha: w3 S	Some difficulty-Push/pulling large objects	Categ
4	S4PUSHA	s4pusha: w4 S	Some difficulty-Push/pulling large objects	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKSA	14016	0.24	0.43	0.00	1.00
R2WALKSA	12389	0.24	0.43	0.00	1.00
R3WALKSA	14374	0.27	0.44	0.00	1.00
R4WALKSA	13661	0.29	0.46	0.00	1.00
S1WALKSA	9918	0.22	0.41	0.00	1.00
S2WALKSA	8680	0.22	0.41	0.00	1.00
S3WALKSA	9831	0.24	0.43	0.00	1.00

S4WALKSA	9101	0.26	0.44	0.00	1.00
R1JOGA	11123	0.54	0.50	0.00	1.00
R2JOGA	9827	0.56	0.50	0.00	1.00
R3JOGA	12489	0.55	0.50	0.00	1.00
R4JOGA	11677	0.58	0.49	0.00	1.00
S1JOGA	7896	0.51	0.50	0.00	1.00
S2JOGA	6914	0.52	0.50	0.00	1.00
S3JOGA	8570	0.51	0.50	0.00	1.00
S4JOGA	7815	0.54	0.50	0.00	1.00
R1WALK1A	13922	0.10	0.31	0.00	1.00
R2WALK1A	12428	0.11	0.31	0.00	1.00
R3WALK1A	14407	0.13	0.33	0.00	1.00
R4WALK1A	13737	0.14	0.35	0.00	1.00
S1WALK1A	9847	0.09	0.28	0.00	1.00
S2WALK1A	8703	0.09	0.28	0.00	1.00
S3WALK1A	9850	0.11	0.31	0.00	1.00
S4WALK1A	9138	0.12	0.32	0.00	1.00
R1SITA	14045	0.18	0.38	0.00	1.00
R2SITA	12474	0.16	0.36	0.00	1.00
R3SITA	14395	0.19	0.40	0.00	1.00
R4SITA	13763	0.21	0.41	0.00	1.00
S1SITA	9924	0.16	0.37	0.00	1.00
S2SITA	8716	0.15	0.35	0.00	1.00
S3SITA	9831	0.18	0.39	0.00	1.00
S4SITA	9145	0.20	0.40	0.00	1.00
R1CHAIRA	14069	0.27	0.44	0.00	1.00
R2CHAIRA	12481	0.24	0.43	0.00	1.00
R3CHAIRA	14428	0.30	0.46	0.00	1.00
R4CHAIRA	13779	0.34	0.47	0.00	1.00
S1CHAIRA	9941	0.25	0.43	0.00	1.00
S2CHAIRA	8724	0.22	0.41	0.00	1.00
S3CHAIRA	9850	0.28	0.45	0.00	1.00
S4CHAIRA	9157	0.33	0.47	0.00	1.00
R1CLIMSA	12488	0.43	0.49	0.00	1.00
R2CLIMSA	10986	0.41	0.49	0.00	1.00
R3CLIMSA	13259	0.44	0.50	0.00	1.00
R4CLIMSA	12740	0.47	0.50	0.00	1.00
S1CLIMSA	8811	0.39	0.49	0.00	1.00
S2CLIMSA	7740	0.37	0.48	0.00	1.00
S3CLIMSA	9091	0.40	0.49	0.00	1.00
S4CLIMSA	8560	0.43	0.50	0.00	1.00
R1CLIM1A	13567	0.20	0.40	0.00	1.00
R2CLIM1A	12082	0.20	0.40	0.00	1.00
R3CLIM1A	13775	0.24	0.43	0.00	1.00
R4CLIM1A	13260	0.26	0.44	0.00	1.00
S1CLIM1A	9613	0.17	0.38	0.00	1.00
S2CLIM1A	8479	0.17	0.37	0.00	1.00
S3CLIM1A	9433	0.21	0.41	0.00	1.00
S4CLIM1A	8878	0.22	0.42	0.00	1.00
R1STOOPA	14027	0.35	0.48	0.00	1.00
R2STOOPA	12426	0.33	0.47	0.00	1.00
R3STOOPA	14365	0.41	0.49	0.00	1.00
R4STOOPA	13695	0.45	0.50	0.00	1.00
S1STOOPA	9917	0.32	0.47	0.00	1.00
S2STOOPA	8694	0.31	0.46	0.00	1.00

S3STOOPA	9825	0.38	0.48	0.00	1.00
S4STOOPA	9122	0.42	0.49	0.00	1.00
R1LIFTA	13943	0.19	0.39	0.00	1.00
R2LIFTA	12343	0.18	0.39	0.00	1.00
R3LIFTA	14230	0.24	0.43	0.00	1.00
R4LIFTA	13474	0.27	0.44	0.00	1.00
S1LIFTA	9887	0.15	0.36	0.00	1.00
S2LIFTA	8662	0.15	0.36	0.00	1.00
S3LIFTA	9761	0.20	0.40	0.00	1.00
S4LIFTA	9023	0.22	0.42	0.00	1.00
R1DIMEA	14074	0.05	0.22	0.00	1.00
R2DIMEA	12489	0.06	0.23	0.00	1.00
R3DIMEA	14437	0.07	0.26	0.00	1.00
R4DIMEA	13787	0.07	0.26	0.00	1.00
S1DIMEA	9951	0.04	0.21	0.00	1.00
S2DIMEA	8730	0.04	0.21	0.00	1.00
S3DIMEA	9860	0.06	0.24	0.00	1.00
S4DIMEA	9156	0.06	0.24	0.00	1.00
R1ARMSA	14076	0.11	0.31	0.00	1.00
R2ARMSA	12494	0.10	0.30	0.00	1.00
R3ARMSA	14441	0.14	0.34	0.00	1.00
R4ARMSA	13794	0.15	0.36	0.00	1.00
S1ARMSA	9951	0.10	0.30	0.00	1.00
S2ARMSA	8735	0.09	0.29	0.00	1.00
S3ARMSA	9863	0.12	0.33	0.00	1.00
S4ARMSA	9163	0.13	0.34	0.00	1.00
R1PUSHA	13870	0.20	0.40	0.00	1.00
R2PUSHA	12287	0.19	0.39	0.00	1.00
R3PUSHA	14150	0.25	0.43	0.00	1.00
R4PUSHA	13473	0.27	0.44	0.00	1.00
S1PUSHA	9844	0.17	0.38	0.00	1.00
S2PUSHA	8621	0.16	0.36	0.00	1.00
S3PUSHA	9709	0.21	0.41	0.00	1.00
S4PUSHA	9009	0.23	0.42	0.00	1.00

## Categorical Variable Codes

Value-----	R1WALKSA	R2WALKSA	R3WALKSA	R4WALKSA
.d:DK	6	1	3	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12		1	1
.x:Doesn't do	82	111	70	143
0.No	10634	9382	10487	9638
1.Yes	3382	3007	3887	4023

Value-----	S1WALKSA	S2WALKSA	S3WALKSA	S4WALKSA
.d:DK	5	1	1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	6			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	46	56	34	66
0.No	7769	6811	7446	6722
1.Yes	2149	1869	2385	2379

Value-----	R1JOGA	R2JOGA	R3JOGA	R4JOGA
.d:DK	114	52	46	17
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	71	18	9	3
.x:Doesn't do	2808	2604	1904	2113

## Section B: Health

100

0.No	5102	4358	5631	4881
1.Yes	6021	5469	6858	6796
Value-----	S1JOGA	S2JOGA	S3JOGA	S4JOGA
.d:DK	85	35	34	10
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	45	13	4	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	1949	1775	1258	1345
0.No	3887	3340	4191	3588
1.Yes	4009	3574	4379	4227
Value-----	R1WALK1A	R2WALK1A	R3WALK1A	R4WALK1A
.d:DK	26		3	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	91	1	2	1
.x:Doesn't do	77	72	36	67
0.No	12476	11067	12559	11772
1.Yes	1446	1361	1848	1965
Value-----	S1WALK1A	S2WALK1A	S3WALK1A	S4WALK1A
.d:DK	16		1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	65	1	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	47	33	14	29
0.No	8972	7929	8791	8049
1.Yes	875	774	1059	1089
Value-----	R1SITA	R2SITA	R3SITA	R4SITA
.d:DK	7		2	8
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	15		1	1
.x:Doesn't do	49	27	50	38
0.No	11560	10504	11594	10856
1.Yes	2485	1970	2801	2907
Value-----	S1SITA	S2SITA	S3SITA	S4SITA
.d:DK	4		2	6
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	13			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	34	21	33	21
0.No	8318	7430	8036	7289
1.Yes	1606	1286	1795	1856
Value-----	R1CHAIRA	R2CHAIRA	R3CHAIRA	R4CHAIRA
.d:DK	7	2	1	6
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	14		1	1
.x:Doesn't do	26	18	18	24
0.No	10272	9526	10089	9058
1.Yes	3797	2955	4339	4721
Value-----	S1CHAIRA	S2CHAIRA	S3CHAIRA	S4CHAIRA
.d:DK	5	1	1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	11			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	18	12	15	10
0.No	7459	6825	7089	6159
1.Yes	2482	1899	2761	2998
Value-----	R1CLIMSA	R2CLIMSA	R3CLIMSA	R4CLIMSA
.d:DK	115	61	30	15
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929

.r:Refuse	86	3	2	1
.x:Doesn't do	1427	1451	1157	1054
0.No	7158	6523	7491	6762
1.Yes	5330	4463	5768	5978
Value-----	S1CLIMSA	S2CLIMSA	S3CLIMSA	S4CLIMSA
.d:DK	85	36	20	13
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	62	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	1017	958	754	599
0.No	5346	4842	5465	4875
1.Yes	3465	2898	3626	3685
Value-----	R1CLIM1A	R2CLIM1A	R3CLIM1A	R4CLIM1A
.d:DK	58	19	20	10
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	85	5	2	2
.x:Doesn't do	406	395	651	538
0.No	10848	9710	10474	9831
1.Yes	2719	2372	3301	3429
Value-----	S1CLIM1A	S2CLIM1A	S3CLIM1A	S4CLIM1A
.d:DK	46	10	12	9
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	58	4	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	258	244	420	285
0.No	7947	7053	7474	6900
1.Yes	1666	1426	1959	1978
Value-----	R1STOOPA	R2STOOPA	R3STOOPA	R4STOOPA
.d:DK	9	4	2	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12	1	1	2
.x:Doesn't do	68	70	80	108
0.No	9071	8292	8446	7504
1.Yes	4956	4134	5919	6191
Value-----	S1STOOPA	S2STOOPA	S3STOOPA	S4STOOPA
.d:DK	7	2	1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	41	40	40	45
0.No	6704	6039	6114	5264
1.Yes	3213	2655	3711	3858
Value-----	R1LIFTA	R2LIFTA	R3LIFTA	R4LIFTA
.d:DK	6	7	3	6
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	8		3	1
.x:Doesn't do	159	151	212	329
0.No	11355	10094	10837	9855
1.Yes	2588	2249	3393	3619
Value-----	S1LIFTA	S2LIFTA	S3LIFTA	S4LIFTA
.d:DK	3	3	2	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	5			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	80	72	103	144
0.No	8378	7364	7803	7018
1.Yes	1509	1298	1958	2005
Value-----	R1DIMEA	R2DIMEA	R3DIMEA	R4DIMEA
.d:DK	9		2	7

.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	16		1	1
.x:Doesn't do	17	12	8	15
0.No	13324	11785	13391	12796
1.Yes	750	704	1046	991
Value-----	S1DIMEA	S2DIMEA	S3DIMEA	S4DIMEA
.d:DK	5		2	7
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	9	7	4	9
0.No	9513	8341	9245	8579
1.Yes	438	389	615	577
Value-----	R1ARMSA	R2ARMSA	R3ARMSA	R4ARMSA
.d:DK	7		1	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12	1	1	1
.x:Doesn't do	21	6	5	10
0.No	12539	11238	12488	11721
1.Yes	1537	1256	1953	2073
Value-----	S1ARMSA	S2ARMSA	S3ARMSA	S4ARMSA
.d:DK	4		1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	10	1	2	4
0.No	8990	7946	8672	7942
1.Yes	961	789	1191	1221
Value-----	R1PUSHA	R2PUSHA	R3PUSHA	R4PUSHA
.d:DK	7	2	2	5
.m:Missing	38	25		40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	11		1	2
.x:Doesn't do	228	212	295	330
0.No	11096	10000	10663	9838
1.Yes	2774	2287	3487	3635
Value-----	S1PUSHA	S2PUSHA	S3PUSHA	S4PUSHA
.d:DK	4		1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	8			1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Doesn't do	119	116	156	157
0.No	8175	7261	7641	6926
1.Yes	1669	1360	2068	2083

## How Constructed

These variables indicate difficulty with functional limitations other than ADLs and IADLs. The other functional limitations include walking several blocks (RwWALKSA), running and jogging one kilometer (RwJOGA), walking one block (RwWALK1A), sitting for about 2 hours (RwSITA), getting up from a chair after sitting for long periods (RwCHAIRA), climbing several flights of stairs without resting (RwCLIMSA), climbing one flight of stairs without resting (RwCLIM1A), stooping/ kneeling/or crouching (RwSTOOPA), reaching arms above shoulder level (RwARMSA), pushing or pulling large objects (RwPUSHA), lifting or carrying weights over 5 kilos (RwLIFTA), and picking up a small coin (one peso) from the table (RwDIMEA).

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 or if they reported "can't do". When respondents indicated "don't know" or refused to answer the RwWALKSA, RwJOGA, RwWALK1A, RwSITA, RwCHAIRA, RwCLIMSA, RwCLIM1A, RwSTOOPA, RwARMSA, RwPUSHA, RwLIFTA, and RwDIMEA variables are assigned special missing values .d or .r, respectively. Also, if the respondent reported "don't do" they are set to special missing value .x, missing answers are set to special

missing .m, and they are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKSA, SwJOGA, SwWALK1A, SwSITA, SwCHAIRA, SwCLIMSA, SwCLIM1A, SwSTOOPA, SwARMSA, SwPUSHA, SwLIFTA, and SwDIMEA indicate whether the respondent's spouse reported any difficulty with such activities and are taken directly from the spouse's RwWALKSA, RwJOGA, RwWALK1A, RwSITA, RwCHAIRA, RwCLIMSA, RwCLIM1A, RwSTOOPA, RwARMSA, RWPUSHA, RwLIFTA, and RWDIMEA variables, respectively. In addition to the special missing codes used in RwWALKSA, RwJOGA, RwWALK1A, RwSITA, RwCHAIRA, RwCLIMSA, RwCLIM1A, RwSTOOPA, RwARMSA, RWPUSHA, RwLIFTA, and RWDIMEA, SwWALKSA, SwJOGA, SwWALK1A, SwSITA, SwCHAIRA, SwCLIMSA, SwCLIM1A, SwSTOOPA, SwARMSA, SwPUSHA, SwLIFTA, and SwDIMEA employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

### Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H2	running
H3	short walk
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

### Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H2	health problems-trouble running
H3	health problems-trouble walking a block
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

### Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H1_12	Because of health problem, difficulty walking blocks
H2_12	Because of health problem, difficulty running
H3_12	Because of health problem, difficulty walking a block
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms

### Wave 4:

H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu



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H12_15	Because of health problem, does respondent have difficu
H1_15	Because of health problem, does respondent have difficu
H2_15	Because of health problem, does respondent have difficu
H3_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu

<b>ADL Summary: Sum ADLs Where Respondent Reports Any Difficulty</b>
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Wave	Variable	Label	Type
1	R1ADLTOT_M	r1adltot_m: w1 R Some difficulty-Total ADLs 0-6	Cont
2	R2ADLTOT_M	r2adltot_m: w2 R Some difficulty-Total ADLs 0-6	Cont
3	R3ADLTOT_M	r3adltot_m: w3 R Some difficulty-Total ADLs 0-6	Cont
4	R4ADLTOT_M	r4adltot_m: w4 R Some difficulty-Total ADLs 0-6	Cont
1	S1ADLTOT_M	s1adltot_m: w1 S Some difficulty-Total ADLs 0-6	Cont
2	S2ADLTOT_M	s2adltot_m: w2 S Some difficulty-Total ADLs 0-6	Cont
3	S3ADLTOT_M	s3adltot_m: w3 S Some difficulty-Total ADLs 0-6	Cont
4	S4ADLTOT_M	s4adltot_m: w4 S Some difficulty-Total ADLs 0-6	Cont
1	R1ADLTOTM_M	r1adltotm_m: w1 R Some difficulty-Missings in Total ADLs 0-6	Cont
2	R2ADLTOTM_M	r2adltotm_m: w2 R Some difficulty-Missings in Total ADLs 0-6	Cont
3	R3ADLTOTM_M	r3adltotm_m: w3 R Some difficulty-Missings in Total ADLs 0-6	Cont
4	R4ADLTOTM_M	r4adltotm_m: w4 R Some difficulty-Missings in Total ADLs 0-6	Cont
1	S1ADLTOTM_M	s1adltotm_m: w1 S Some difficulty-Missings in Total ADLs 0-6	Cont
2	S2ADLTOTM_M	s2adltotm_m: w2 S Some difficulty-Missings in Total ADLs 0-6	Cont
3	S3ADLTOTM_M	s3adltotm_m: w3 S Some difficulty-Missings in Total ADLs 0-6	Cont
4	S4ADLTOTM_M	s4adltotm_m: w4 S Some difficulty-Missings in Total ADLs 0-6	Cont
1	R1ADLA	r1adla: w1 R Some difficulty-ADLs 0-5	Cont
2	R2ADLA	r2adla: w2 R Some difficulty-ADLs 0-5	Cont
3	R3ADLA	r3adla: w3 R Some difficulty-ADLs 0-5	Cont
4	R4ADLA	r4adla: w4 R Some difficulty-ADLs 0-5	Cont
1	S1ADLA	s1adla: w1 S Some difficulty-ADLs 0-5	Cont
2	S2ADLA	s2adla: w2 S Some difficulty-ADLs 0-5	Cont
3	S3ADLA	s3adla: w3 S Some difficulty-ADLs 0-5	Cont
4	S4ADLA	s4adla: w4 S Some difficulty-ADLs 0-5	Cont
1	R1ADLAM	r1adlam: w1 R Some difficulty-Missings in ADLs 0-5 Score	Cont
2	R2ADLAM	r2adlam: w2 R Some difficulty-Missings in ADLs 0-5 Score	Cont
3	R3ADLAM	r3adlam: w3 R Some difficulty-Missings in ADLs 0-5 Score	Cont
4	R4ADLAM	r4adlam: w4 R Some difficulty-Missings in ADLs 0-5 Score	Cont
1	S1ADLAM	s1adlam: w1 S Some difficulty-Missings in ADLs 0-5 Score	Cont
2	S2ADLAM	s2adlam: w2 S Some difficulty-Missings in ADLs 0-5 Score	Cont
3	S3ADLAM	s3adlam: w3 S Some difficulty-Missings in ADLs 0-5 Score	Cont
4	S4ADLAM	s4adlam: w4 S Some difficulty-Missings in ADLs 0-5 Score	Cont
1	R1ADLFIVE	r1adlfive: w1 R Some difficulty-ADLs 0-5 Alternate	Cont
2	R2ADLFIVE	r2adlfive: w2 R Some difficulty-ADLs 0-5 Alternate	Cont
3	R3ADLFIVE	r3adlfive: w3 R Some difficulty-ADLs 0-5 Alternate	Cont
4	R4ADLFIVE	r4adlfive: w4 R Some difficulty-ADLs 0-5 Alternate	Cont
1	S1ADLFIVE	s1adlfive: w1 S Some difficulty-ADLs 0-5 Alternate	Cont
2	S2ADLFIVE	s2adlfive: w2 S Some difficulty-ADLs 0-5 Alternate	Cont
3	S3ADLFIVE	s3adlfive: w3 S Some difficulty-ADLs 0-5 Alternate	Cont
4	S4ADLFIVE	s4adlfive: w4 S Some difficulty-ADLs 0-5 Alternate	Cont
1	R1ADLFIVEM	r1adlfivem: w1 R Some difficulty-Missings in ADLs 0-5 Score	Cont
2	R2ADLFIVEM	r2adlfivem: w2 R Some difficulty-Missings in ADLs 0-5 Score	Cont
3	R3ADLFIVEM	r3adlfivem: w3 R Some difficulty-Missings in ADLs 0-5 Score	Cont
4	R4ADLFIVEM	r4adlfivem: w4 R Some difficulty-Missings in ADLs 0-5 Score	Cont
1	S1ADLFIVEM	s1adlfivem: w1 S Some difficulty-Missings in ADLs 0-5 Score	Cont
2	S2ADLFIVEM	s2adlfivem: w2 S Some difficulty-Missings in ADLs 0-5 Score	Cont
3	S3ADLFIVEM	s3adlfivem: w3 S Some difficulty-Missings in ADLs 0-5 Score	Cont
4	S4ADLFIVEM	s4adlfivem: w4 S Some difficulty-Missings in ADLs 0-5 Score	Cont
1	R1ADLA_M	r1adla_m: w1 R Some difficulty-ADLs 0-4	Cont
2	R2ADLA_M	r2adla_m: w2 R Some difficulty-ADLs 0-4	Cont
3	R3ADLA_M	r3adla_m: w3 R Some difficulty-ADLs 0-4	Cont

4	R4ADLA_M	r4adla_m: w4 R	Some difficulty-ADLs 0-4		Cont
1	S1ADLA_M	s1adla_m: w1 S	Some difficulty-ADLs 0-4		Cont
2	S2ADLA_M	s2adla_m: w2 S	Some difficulty-ADLs 0-4		Cont
3	S3ADLA_M	s3adla_m: w3 S	Some difficulty-ADLs 0-4		Cont
4	S4ADLA_M	s4adla_m: w4 S	Some difficulty-ADLs 0-4		Cont
1	R1ADLAM_M	r1adlam_m: w1 R	Some difficulty-Missings in ADLs 0-4	Score	Cont
2	R2ADLAM_M	r2adlam_m: w2 R	Some difficulty-Missings in ADLs 0-4	Score	Cont
3	R3ADLAM_M	r3adlam_m: w3 R	Some difficulty-Missings in ADLs 0-4	Score	Cont
4	R4ADLAM_M	r4adlam_m: w4 R	Some difficulty-Missings in ADLs 0-4	Score	Cont
1	S1ADLAM_M	s1adlam_m: w1 S	Some difficulty-Missings in ADLs 0-4	Score	Cont
2	S2ADLAM_M	s2adlam_m: w2 S	Some difficulty-Missings in ADLs 0-4	Score	Cont
3	S3ADLAM_M	s3adlam_m: w3 S	Some difficulty-Missings in ADLs 0-4	Score	Cont
4	S4ADLAM_M	s4adlam_m: w4 S	Some difficulty-Missings in ADLs 0-4	Score	Cont
1	R1ADLWA	r1adlwa: w1 R	Some difficulty-ADLs: Wallace 0-3		Cont
2	R2ADLWA	r2adlwa: w2 R	Some difficulty-ADLs: Wallace 0-3		Cont
3	R3ADLWA	r3adlwa: w3 R	Some difficulty-ADLs: Wallace 0-3		Cont
4	R4ADLWA	r4adlwa: w4 R	Some difficulty-ADLs: Wallace 0-3		Cont
1	S1ADLWA	s1adlwa: w1 S	Some difficulty-ADLs: Wallace 0-3		Cont
2	S2ADLWA	s2adlwa: w2 S	Some difficulty-ADLs: Wallace 0-3		Cont
3	S3ADLWA	s3adlwa: w3 S	Some difficulty-ADLs: Wallace 0-3		Cont
4	S4ADLWA	s4adlwa: w4 S	Some difficulty-ADLs: Wallace 0-3		Cont
1	R1ADLWAM	r1adlwam: w1 R	Some difficulty-Missings Wallace	Score 0-3	Cont
2	R2ADLWAM	r2adlwam: w2 R	Some difficulty-Missings Wallace	Score 0-3	Cont
3	R3ADLWAM	r3adlwam: w3 R	Some difficulty-Missings Wallace	Score 0-3	Cont
4	R4ADLWAM	r4adlwam: w4 R	Some difficulty-Missings Wallace	Score 0-3	Cont
1	S1ADLWAM	s1adlwam: w1 S	Some difficulty-Missings Wallace	Score 0-3	Cont
2	S2ADLWAM	s2adlwam: w2 S	Some difficulty-Missings Wallace	Score 0-3	Cont
3	S3ADLWAM	s3adlwam: w3 S	Some difficulty-Missings Wallace	Score 0-3	Cont
4	S4ADLWAM	s4adlwam: w4 S	Some difficulty-Missings Wallace	Score 0-3	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1ADLTOT_M	14113	0.23	0.84	0.00	6.00
R2ADLTOT_M	12501	0.22	0.82	0.00	6.00
R3ADLTOT_M	14446	0.32	0.90	0.00	6.00
R4ADLTOT_M	13804	0.38	1.02	0.00	6.00
S1ADLTOT_M	9974	0.19	0.76	0.00	6.00
S2ADLTOT_M	8737	0.18	0.72	0.00	6.00
S3ADLTOT_M	9865	0.27	0.81	0.00	6.00
S4ADLTOT_M	9167	0.32	0.94	0.00	6.00
R1ADLTOTM_M	15186	0.15	0.66	0.00	6.00
R2ADLTOTM_M	13704	0.11	0.44	0.00	6.00
R3ADLTOTM_M	15723	0.10	0.37	0.00	6.00
R4ADLTOTM_M	14779	0.09	0.42	0.00	6.00
S1ADLTOTM_M	10648	0.13	0.60	0.00	6.00
S2ADLTOTM_M	9564	0.10	0.39	0.00	6.00
S3ADLTOTM_M	10592	0.09	0.36	0.00	6.00
S4ADLTOTM_M	9652	0.06	0.33	0.00	6.00
R1ADLA	14113	0.20	0.72	0.00	5.00
R2ADLA	12501	0.19	0.70	0.00	5.00
R3ADLA	14446	0.27	0.77	0.00	5.00
R4ADLA	13804	0.33	0.89	0.00	5.00
S1ADLA	9974	0.17	0.65	0.00	5.00
S2ADLA	8737	0.15	0.62	0.00	5.00
S3ADLA	9865	0.23	0.70	0.00	5.00

## Section B: Health

S4ADLA	9167	0.28	0.81	0.00	5.00
R1ADLAM	15186	0.13	0.56	0.00	5.00
R2ADLAM	13704	0.10	0.39	0.00	5.00
R3ADLAM	15723	0.09	0.34	0.00	5.00
R4ADLAM	14779	0.08	0.38	0.00	5.00
S1ADLAM	10648	0.12	0.50	0.00	5.00
S2ADLAM	9564	0.10	0.36	0.00	5.00
S3ADLAM	10592	0.08	0.33	0.00	5.00
S4ADLAM	9652	0.06	0.30	0.00	5.00
R1ADLFIVE	14113	0.18	0.69	0.00	5.00
R2ADLFIVE	12501	0.18	0.67	0.00	5.00
R3ADLFIVE	14446	0.26	0.75	0.00	5.00
R4ADLFIVE	13804	0.32	0.86	0.00	5.00
S1ADLFIVE	9974	0.16	0.63	0.00	5.00
S2ADLFIVE	8737	0.14	0.60	0.00	5.00
S3ADLFIVE	9865	0.22	0.68	0.00	5.00
S4ADLFIVE	9167	0.27	0.79	0.00	5.00
R1ADLFIVEM	15186	0.13	0.56	0.00	5.00
R2ADLFIVEM	13704	0.10	0.39	0.00	5.00
R3ADLFIVEM	15723	0.09	0.34	0.00	5.00
R4ADLFIVEM	14779	0.08	0.38	0.00	5.00
S1ADLFIVEM	10648	0.12	0.50	0.00	5.00
S2ADLFIVEM	9564	0.10	0.36	0.00	5.00
S3ADLFIVEM	10592	0.08	0.33	0.00	5.00
S4ADLFIVEM	9652	0.06	0.30	0.00	5.00
R1ADLA_M	14971	0.16	0.64	0.00	4.00
R2ADLA_M	13652	0.16	0.63	0.00	4.00
R3ADLA_M	15690	0.24	0.71	0.00	4.00
R4ADLA_M	14732	0.28	0.79	0.00	4.00
S1ADLA_M	10524	0.13	0.56	0.00	4.00
S2ADLA_M	9538	0.13	0.55	0.00	4.00
S3ADLA_M	10566	0.18	0.60	0.00	4.00
S4ADLA_M	9637	0.22	0.68	0.00	4.00
R1ADLAM_M	15186	0.06	0.47	0.00	4.00
R2ADLAM_M	13704	0.02	0.25	0.00	4.00
R3ADLAM_M	15723	0.01	0.19	0.00	4.00
R4ADLAM_M	14779	0.02	0.23	0.00	4.00
S1ADLAM_M	10648	0.05	0.43	0.00	4.00
S2ADLAM_M	9564	0.01	0.21	0.00	4.00
S3ADLAM_M	10592	0.01	0.21	0.00	4.00
S4ADLAM_M	9652	0.01	0.16	0.00	4.00
R1ADLWA	14113	0.11	0.42	0.00	3.00
R2ADLWA	12501	0.10	0.42	0.00	3.00
R3ADLWA	14446	0.15	0.46	0.00	3.00
R4ADLWA	13804	0.18	0.53	0.00	3.00
S1ADLWA	9974	0.09	0.38	0.00	3.00
S2ADLWA	8737	0.08	0.37	0.00	3.00
S3ADLWA	9865	0.12	0.41	0.00	3.00
S4ADLWA	9167	0.16	0.49	0.00	3.00
R1ADLWAM	15186	0.10	0.37	0.00	3.00
R2ADLWAM	13704	0.10	0.32	0.00	3.00
R3ADLWAM	15723	0.09	0.29	0.00	3.00
R4ADLWAM	14779	0.07	0.30	0.00	3.00
S1ADLWAM	10648	0.09	0.34	0.00	3.00
S2ADLWAM	9564	0.09	0.30	0.00	3.00

S3ADLWAM	10592	0.08	0.28	0.00	3.00
S4ADLWAM	9652	0.06	0.25	0.00	3.00

## How Constructed

Five activities of Daily Living (ADL) summaries are derived from the Rw[adl]A variables.

The first one (RwADLTOT\_M) includes all available ADL measures: RwBATHA, RwDRESSA, RWEATA, RWBEDA, RvWALKRA, and RvTOILTA. The second one (RwADLA) includes the following five ADL measures: RwBATHA, RwDRESSA, RWEATA, RWBEDA, and RvWALKRA. The third one (RwADLFIVE) includes an alternative grouping of five ADL measures: RwBATHA, RwDRESSA, RWEATA, RWBEDA, and RvTOILTA. The fourth one (RwADLA\_M) is an MHAS specific summary variable that includes the following four variables: RwBATHA, RWEATA, RWBEDA, and RvWALKRA. This variable was created excluding RwDRESSA since the difficulty with dressing variable was skipped for proxy interviews. The fifth summary measure 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. In all waves the indicators of "some difficulty" are used to construct these summary measures. Each limitation adds one to the summary measures even if one or more measures have missing special values and if at least one of the ADL components was completed, that is:

RwADLTOT\_M = sum (RwBATHA, RwDRESSA, RWEATA, RWBEDA, RvWALKRA, RvTOILTA).

RwADLA = sum (RwBATHA, RwDRESSA, RWEATA, RWBEDA, RvWALKRA).

RwADLFIVE = sum (RwBATHA, RwDRESSA, RWEATA, RWBEDA, RvTOILTA).

RwADLA\_M = sum (RwBATHA, RWEATA, RWBEDA, RvWALKRA).

RwADLWA = sum (RwBATHA, RwDRESSA, RWEATA).

Each of these summary variables is calculated as long as at least one of its components is not missing. RwADLTOT\_M, RwADLAM, RwADLFIVEM, RwADLAM\_M, and RwADLWAM count the number of missing components for each summary score. RwADLTOT\_M, RwADLA, RwADLFIVE, RwADLA\_M, and RwADLWA are assigned special missing .d, .r, .x, .p, .m, for don't know, refused, doesn't do, proxy, or otherwise missing responses, respectively. These variables are assigned a blank missing (.) for respondents who did not participate in the current wave.

SwADLTOT\_M, SwADLA, SwADLFIVE, SwADLA\_M, and SwADLWA are the respondent's spouse's ADL summaries and are taken directly from the spouse's RwADLTOT\_M, RwADLA, RwADLFIVE, RwADLA\_M, and RwADLWA, respectively. In addition to the special missing codes used in RwADLTOT\_M, RwADLA, RwADLFIVE, RwADLA\_M, and RwADLWA, SwADLTOT\_M, SwADLA, SwADLFIVE, SwADLA\_M, and SwADLWA employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

SwADLTOTM\_M, SwADLAM, SwADLFIVEM, SwADLAM\_M, and SwADLWAM are the respondent's spouse's counts of missing values in the corresponding ADL summaries and are taken directly from the spouse's RwADLTOTM\_M, RwADLAM, RwADLFIVEM, SwADLAM\_M, and RwADLWAM, respectively. In addition to the special missing codes used in RwADLTOTM\_M, RwADLAM, RwADLFIVEM, SwADLAM\_M, and RwADLWAM, SwADLTOTM\_M, SwADLAM, SwADLFIVEM, SwADLAM\_M, and SwADLWAM employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Please see "Activities of Daily Living (ADLs): Some difficulty" for a description of how the individual 0/1 indicators (RwBATHA, RwDRESSA, RWEATA, RWBEDA, RvWALKRA, and RvTOILTA) are constructed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the activities of daily living (ADLs) recodes for comparison to Wallace and Herzog and the ADL summary that includes these variables, were not created in the MHAS. These variables code a yes/no dummy that indicates "any difficulty" in a manner used by Wallace and Herzog in their paper (Wallace and Herzog, 1995). In the HRS, respondents are asked if the activity is "a little difficult", "somewhat difficult" or "very difficult/can't do". The ADL variables are recoded to 1

for "any difficulty" if the respondent answered "a little difficult", "somewhat difficult" or "very difficult/can't do" according to Wallace and Herzog. However, in the MHAS, respondents are only asked if they have "some difficulty" with the ADLs.

## MHAS Variables Used

### Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_1	difficult using toilet
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

### Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H13	health problems-trouble dressing self
H14	someone help you to get dressed
H15A	health problem-trouble walking
H15E	spouse helps
H15F	additional person helps
H16A	health problem-have trouble bathing
H16E	spouse helps
H16F	additional person helps
H17A	health problem-trouble eating or cutting
H17E	spouse helps
H17F	additional person helps
H18A	health problem-get in/out of bed
H18E	spouse helps
H18F	additional person helps
H19A	health problem-trouble going to bathroom
H19E	spouse helps
H19F	additional person helps
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

### Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H13_12	Because of health problem, difficulty dressing self
H14_12	Someone help you to get dressed
H15A_12	Because of health problem, difficulty walking

H15D_12	Someone help you walk across room
H16A_12	Because of health problem, difficulty bathing
H16D_12	Someone help you to bathe or shower
H17A_12	Because of health problem, difficulty eating or cutting
H17D_12	Does someone help you eat your food
H18A_12	Because of health problem, difficulty get in/out of bed
H18D_12	Does someone help you get into or out of bed
H19A_12	Because of health problem, difficulty going to the bath
H19D_12	Does someone help you use toilet, get on off
H1_12	Because of health problem, difficulty walking blocks
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms

## Wave 4:

H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu

<b>IADL Summary: Sum IADLs Where Respondent Reports Any Difficulty</b>
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Wave	Variable	Label	Type
1	R1IADLFOUR	r1iadlfour: w1 R Some difficulty-IADLs 0-4	Cont
2	R2IADLFOUR	r2iadlfour: w2 R Some difficulty-IADLs 0-4	Cont
3	R3IADLFOUR	r3iadlfour: w3 R Some difficulty-IADLs 0-4	Cont
4	R4IADLFOUR	r4iadlfour: w4 R Some difficulty-IADLs 0-4	Cont
1	S1IADLFOUR	s1iadlfour: w1 S Some difficulty-IADLs 0-4	Cont
2	S2IADLFOUR	s2iadlfour: w2 S Some difficulty-IADLs 0-4	Cont
3	S3IADLFOUR	s3iadlfour: w3 S Some difficulty-IADLs 0-4	Cont
4	S4IADLFOUR	s4iadlfour: w4 S Some difficulty-IADLs 0-4	Cont
1	R1IADLFOURM	r1iadlfourm: w1 R Some difficulty-Missings in IADLs Score	Cont
2	R2IADLFOURM	r2iadlfourm: w2 R Some difficulty-Missings in IADLs Score	Cont
3	R3IADLFOURM	r3iadlfourm: w3 R Some difficulty-Missings in IADLs Score	Cont
4	R4IADLFOURM	r4iadlfourm: w4 R Some difficulty-Missings in IADLs Score	Cont
1	S1IADLFOURM	s1iadlfourm: w1 S Some difficulty-Missings in IADLs Score	Cont
2	S2IADLFOURM	s2iadlfourm: w2 S Some difficulty-Missings in IADLs Score	Cont
3	S3IADLFOURM	s3iadlfourm: w3 S Some difficulty-Missings in IADLs Score	Cont
4	S4IADLFOURM	s4iadlfourm: w4 S Some difficulty-Missings in IADLs Score	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IADLFOUR	14085	0.14	0.58	0.00	4.00
R2IADLFOUR	12494	0.15	0.60	0.00	4.00
R3IADLFOUR	14445	0.18	0.60	0.00	4.00
R4IADLFOUR	13803	0.22	0.67	0.00	4.00
S1IADLFOUR	9952	0.11	0.49	0.00	4.00
S2IADLFOUR	8732	0.11	0.50	0.00	4.00
S3IADLFOUR	9864	0.13	0.52	0.00	4.00
S4IADLFOUR	9167	0.16	0.57	0.00	4.00
R1IADLFOURM	15186	0.37	1.08	0.00	4.00
R2IADLFOURM	13704	0.42	1.15	0.00	4.00
R3IADLFOURM	15723	0.40	1.11	0.00	4.00
R4IADLFOURM	14779	0.34	1.02	0.00	4.00
S1IADLFOURM	10648	0.35	1.04	0.00	4.00
S2IADLFOURM	9564	0.42	1.15	0.00	4.00
S3IADLFOURM	10592	0.35	1.04	0.00	4.00
S4IADLFOURM	9652	0.27	0.91	0.00	4.00

## How Constructed

One Instrumental Activities of Daily Living (IADL) summary variable was constructed. RwiADLFOUR summarizes the commonly used IADLs including managing money, taking medications, shopping for groceries, and preparing hot meals. In all waves the indicators of "some difficulty" are used to construct this summary measure. Each limitation adds one to the summary measures even if one or more measures have missing special values and if at least one of the IADL components was completed, that is:

RwiADLFOUR = sum (RwMONEYA, RwMEDSA, RwSHOPA, RwMEALSA). RwiADLFOURM is the number of IADL questions with missing values, ranging from 0 to 4. RwiADLFOUR is assigned special missing .d, .r, .x, .p, .m, for don't know, refused, doesn't do, proxy, or otherwise missing responses, respectively. RwiADLFOUR and RwiADLFOURM are assigned a blank missing (.) for respondents who did not participate in the current wave.

SwiADLFOUR and SwiADLFOURM are the respondent's spouse's IADL summary and count of missing values in that summary and are taken directly from the spouse's RwiADLFOUR and RwiADLFOURM, respectively. In addition to the special missing codes used in RwiADLFOUR and RwiADLFOURM, SwiADLFOUR and SwiADLFOURM employ the special missing value .u, when the respondent does not report being coupled



in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Please see "Instrumental Activities of Daily Living (IADLs): Some difficulty" for a description of how the individual 0/1 indicators (RwMONEYA, RwMEDSA, RwsHOPA, and RwMEALSA) are constructed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include the instrumental activities of daily living (IADLs) regarding using the phone and using a map. An IADL summary variable was created including using managing money (RwMONEYA), taking medications (RwMEDSA), shopping for groceries (RwsHOPA), and preparing meals (RwMEALSA), for which a comparable summary variable is available in the Harmonized HRS.

## MHAS Variables Used

### Wave 1:

H26_1	hot meal
H26_2	health prevents preparing hot meal
H27_1	shopping
H27_2	health prevents shopping
H28_1	taking medication
H28_2	health prevents taking medication
H29_1	managing money
H29_2	health prevents managing money

### Wave 2:

H26A	trouble preparing hot food
H26B	this is due to a health problem
H27A	trouble shopping
H27B	this is due to a health problem
H28A	trouble taking medicine
H28B	this is due to a health problem
H29A	trouble managing money
H29B	this is due to a health problem

### Wave 3:

H26A_12	Difficulty preparing hot food
H26B_12	Difficulty preparing hot food due to a health problem
H27A_12	Difficulty shopping
H27B_12	Difficulty shopping due to a health problem
H28A_12	Difficulty taking medications
H28B_12	Difficulty taking medications due to a health problem
H29A_12	Difficulty managing money
H29B_12	Difficulty managing money due to a health problem

### Wave 4:

H26A_15	Because of health problem, does respondent have any dif
H26B_15	Is this (difficulty preparing a hot meal) because of a
H27A_15	Because of health problem, does respondent have any dif
H27B_15	Is this (shopping for groceries) because of a health pr
H28A_15	Because of health problem, does respondent have any dif
H28B_15	Is this (taking medications) because of a health proble
H29A_15	Because of health problem, does respondent have any dif
H29B_15	Is this (managing his/her money) because of a health pr

**Other Summary Indices: Mobility, Large Muscle, Gross, Fine Motor, Total, Upper, and Lower Body  
Mobility Activities**

Wave	Variable	Label	Type
1	R1MOBILA	r1mobila: w1 R Some difficulty-Mobility 0-5	Cont
2	R2MOBILA	r2mobila: w2 R Some difficulty-Mobility 0-5	Cont
3	R3MOBILA	r3mobila: w3 R Some difficulty-Mobility 0-5	Cont
4	R4MOBILA	r4mobila: w4 R Some difficulty-Mobility 0-5	Cont
1	S1MOBILA	s1mobila: w1 S Some difficulty-Mobility 0-5	Cont
2	S2MOBILA	s2mobila: w2 S Some difficulty-Mobility 0-5	Cont
3	S3MOBILA	s3mobila: w3 S Some difficulty-Mobility 0-5	Cont
4	S4MOBILA	s4mobila: w4 S Some difficulty-Mobility 0-5	Cont
1	R1MOBILAM	r1mobilam: w1 R Some difficulty-Missings in Mobility Score	Cont
2	R2MOBILAM	r2mobilam: w2 R Some difficulty-Missings in Mobility Score	Cont
3	R3MOBILAM	r3mobilam: w3 R Some difficulty-Missings in Mobility Score	Cont
4	R4MOBILAM	r4mobilam: w4 R Some difficulty-Missings in Mobility Score	Cont
1	S1MOBILAM	s1mobilam: w1 S Some difficulty-Missings in Mobility Score	Cont
2	S2MOBILAM	s2mobilam: w2 S Some difficulty-Missings in Mobility Score	Cont
3	S3MOBILAM	s3mobilam: w3 S Some difficulty-Missings in Mobility Score	Cont
4	S4MOBILAM	s4mobilam: w4 S Some difficulty-Missings in Mobility Score	Cont
1	R1LGMUSA	r1lgmusa: w1 R Some difficulty-Large Muscle 0-4	Cont
2	R2LGMUSA	r2lgmusa: w2 R Some difficulty-Large Muscle 0-4	Cont
3	R3LGMUSA	r3lgmusa: w3 R Some difficulty-Large Muscle 0-4	Cont
4	R4LGMUSA	r4lgmusa: w4 R Some difficulty-Large Muscle 0-4	Cont
1	S1LGMUSA	s1lgmusa: w1 S Some difficulty-Large Muscle 0-4	Cont
2	S2LGMUSA	s2lgmusa: w2 S Some difficulty-Large Muscle 0-4	Cont
3	S3LGMUSA	s3lgmusa: w3 S Some difficulty-Large Muscle 0-4	Cont
4	S4LGMUSA	s4lgmusa: w4 S Some difficulty-Large Muscle 0-4	Cont
1	R1LGMUSAM	r1lgmusam: w1 R Some difficulty-Missings in Large Muscle Sco	Cont
2	R2LGMUSAM	r2lgmusam: w2 R Some difficulty-Missings in Large Muscle Sco	Cont
3	R3LGMUSAM	r3lgmusam: w3 R Some difficulty-Missings in Large Muscle Sco	Cont
4	R4LGMUSAM	r4lgmusam: w4 R Some difficulty-Missings in Large Muscle Sco	Cont
1	S1LGMUSAM	s1lgmusam: w1 S Some difficulty-Missings in Large Muscle Sco	Cont
2	S2LGMUSAM	s2lgmusam: w2 S Some difficulty-Missings in Large Muscle Sco	Cont
3	S3LGMUSAM	s3lgmusam: w3 S Some difficulty-Missings in Large Muscle Sco	Cont
4	S4LGMUSAM	s4lgmusam: w4 S Some difficulty-Missings in Large Muscle Sco	Cont
1	R1GROSSA	r1grossa: w1 R Some difficulty-Gross Motor 0-5	Cont
2	R2GROSSA	r2grossa: w2 R Some difficulty-Gross Motor 0-5	Cont
3	R3GROSSA	r3grossa: w3 R Some difficulty-Gross Motor 0-5	Cont
4	R4GROSSA	r4grossa: w4 R Some difficulty-Gross Motor 0-5	Cont
1	S1GROSSA	s1grossa: w1 S Some difficulty-Gross Motor 0-5	Cont
2	S2GROSSA	s2grossa: w2 S Some difficulty-Gross Motor 0-5	Cont
3	S3GROSSA	s3grossa: w3 S Some difficulty-Gross Motor 0-5	Cont
4	S4GROSSA	s4grossa: w4 S Some difficulty-Gross Motor 0-5	Cont
1	R1GROSSAM	r1grossam: w1 R Some difficulty-Missings in Gross Motor Scor	Cont
2	R2GROSSAM	r2grossam: w2 R Some difficulty-Missings in Gross Motor Scor	Cont
3	R3GROSSAM	r3grossam: w3 R Some difficulty-Missings in Gross Motor Scor	Cont
4	R4GROSSAM	r4grossam: w4 R Some difficulty-Missings in Gross Motor Scor	Cont
1	S1GROSSAM	s1grossam: w1 S Some difficulty-Missings in Gross Motor Scor	Cont
2	S2GROSSAM	s2grossam: w2 S Some difficulty-Missings in Gross Motor Scor	Cont
3	S3GROSSAM	s3grossam: w3 S Some difficulty-Missings in Gross Motor Scor	Cont
4	S4GROSSAM	s4grossam: w4 S Some difficulty-Missings in Gross Motor Scor	Cont
1	R1FINEA	r1finea: w1 R Some difficulty-Fine Motor 0-3	Cont
2	R2FINEA	r2finea: w2 R Some difficulty-Fine Motor 0-3	Cont

3	R3FINEA	r3finea: w3 R Some difficulty-Fine Motor 0-3	Cont
4	R4FINEA	r4finea: w4 R Some difficulty-Fine Motor 0-3	Cont
1	S1FINEA	s1finea: w1 S Some difficulty-Fine Motor 0-3	Cont
2	S2FINEA	s2finea: w2 S Some difficulty-Fine Motor 0-3	Cont
3	S3FINEA	s3finea: w3 S Some difficulty-Fine Motor 0-3	Cont
4	S4FINEA	s4finea: w4 S Some difficulty-Fine Motor 0-3	Cont
1	R1FINEAM	r1fineam: w1 R Some difficulty-Missings in Fine Motor Score	Cont
2	R2FINEAM	r2fineam: w2 R Some difficulty-Missings in Fine Motor Score	Cont
3	R3FINEAM	r3fineam: w3 R Some difficulty-Missings in Fine Motor Score	Cont
4	R4FINEAM	r4fineam: w4 R Some difficulty-Missings in Fine Motor Score	Cont
1	S1FINEAM	s1fineam: w1 S Some difficulty-Missings in Fine Motor Score	Cont
2	S2FINEAM	s2fineam: w2 S Some difficulty-Missings in Fine Motor Score	Cont
3	S3FINEAM	s3fineam: w3 S Some difficulty-Missings in Fine Motor Score	Cont
4	S4FINEAM	s4fineam: w4 S Some difficulty-Missings in Fine Motor Score	Cont
1	R1MOBILSEV	r1mobilsev: w1 R Some difficulty-7 item Mobility 0-7	Cont
2	R2MOBILSEV	r2mobilsev: w2 R Some difficulty-7 item Mobility 0-7	Cont
3	R3MOBILSEV	r3mobilsev: w3 R Some difficulty-7 item Mobility 0-7	Cont
4	R4MOBILSEV	r4mobilsev: w4 R Some difficulty-7 item Mobility 0-7	Cont
1	S1MOBILSEV	s1mobilsev: w1 S Some difficulty-7 item Mobility 0-7	Cont
2	S2MOBILSEV	s2mobilsev: w2 S Some difficulty-7 item Mobility 0-7	Cont
3	S3MOBILSEV	s3mobilsev: w3 S Some difficulty-7 item Mobility 0-7	Cont
4	S4MOBILSEV	s4mobilsev: w4 S Some difficulty-7 item Mobility 0-7	Cont
1	R1MOBILSEVM	r1mobilsevm: w1 R Some difficulty-Missings in 7 item Mobilit	Cont
2	R2MOBILSEVM	r2mobilsevm: w2 R Some difficulty-Missings in 7 item Mobilit	Cont
3	R3MOBILSEVM	r3mobilsevm: w3 R Some difficulty-Missings in 7 item Mobilit	Cont
4	R4MOBILSEVM	r4mobilsevm: w4 R Some difficulty-Missings in 7 item Mobilit	Cont
1	S1MOBILSEVM	s1mobilsevm: w1 S Some difficulty-Missings in 7 item Mobilit	Cont
2	S2MOBILSEVM	s2mobilsevm: w2 S Some difficulty-Missings in 7 item Mobilit	Cont
3	S3MOBILSEVM	s3mobilsevm: w3 S Some difficulty-Missings in 7 item Mobilit	Cont
4	S4MOBILSEVM	s4mobilsevm: w4 S Some difficulty-Missings in 7 item Mobilit	Cont
1	R1UPPERMOB	r1uppermob: w1 R Some difficulty-Upper Body Mobility 0-3	Cont
2	R2UPPERMOB	r2uppermob: w2 R Some difficulty-Upper Body Mobility 0-3	Cont
3	R3UPPERMOB	r3uppermob: w3 R Some difficulty-Upper Body Mobility 0-3	Cont
4	R4UPPERMOB	r4uppermob: w4 R Some difficulty-Upper Body Mobility 0-3	Cont
1	S1UPPERMOB	s1uppermob: w1 S Some difficulty-Upper Body Mobility 0-3	Cont
2	S2UPPERMOB	s2uppermob: w2 S Some difficulty-Upper Body Mobility 0-3	Cont
3	S3UPPERMOB	s3uppermob: w3 S Some difficulty-Upper Body Mobility 0-3	Cont
4	S4UPPERMOB	s4uppermob: w4 S Some difficulty-Upper Body Mobility 0-3	Cont
1	R1UPPERMOBM	r1uppermobm: w1 R Some difficulty-Missings in Upper Body Mob	Cont
2	R2UPPERMOBM	r2uppermobm: w2 R Some difficulty-Missings in Upper Body Mob	Cont
3	R3UPPERMOBM	r3uppermobm: w3 R Some difficulty-Missings in Upper Body Mob	Cont
4	R4UPPERMOBM	r4uppermobm: w4 R Some difficulty-Missings in Upper Body Mob	Cont
1	S1UPPERMOBM	s1uppermobm: w1 S Some difficulty-Missings in Upper Body Mob	Cont
2	S2UPPERMOBM	s2uppermobm: w2 S Some difficulty-Missings in Upper Body Mob	Cont
3	S3UPPERMOBM	s3uppermobm: w3 S Some difficulty-Missings in Upper Body Mob	Cont
4	S4UPPERMOBM	s4uppermobm: w4 S Some difficulty-Missings in Upper Body Mob	Cont
1	R1LOWERMOB	r1lowermob: w1 R Some difficulty-Lower Body Mobility 0-4	Cont
2	R2LOWERMOB	r2lowermob: w2 R Some difficulty-Lower Body Mobility 0-4	Cont
3	R3LOWERMOB	r3lowermob: w3 R Some difficulty-Lower Body Mobility 0-4	Cont
4	R4LOWERMOB	r4lowermob: w4 R Some difficulty-Lower Body Mobility 0-4	Cont
1	S1LOWERMOB	s1lowermob: w1 S Some difficulty-Lower Body Mobility 0-4	Cont
2	S2LOWERMOB	s2lowermob: w2 S Some difficulty-Lower Body Mobility 0-4	Cont
3	S3LOWERMOB	s3lowermob: w3 S Some difficulty-Lower Body Mobility 0-4	Cont
4	S4LOWERMOB	s4lowermob: w4 S Some difficulty-Lower Body Mobility 0-4	Cont
1	R1LOWERMOBM	r1lowermobm: w1 R Some difficulty-Missings in Lower Body Mob	Cont

2	R2LOWERMOBM	r2lowermobm: w2	R	Some difficulty-Missings in Lower Body Mob	Cont
3	R3LOWERMOBM	r3lowermobm: w3	R	Some difficulty-Missings in Lower Body Mob	Cont
4	R4LOWERMOBM	r4lowermobm: w4	R	Some difficulty-Missings in Lower Body Mob	Cont
1	S1LOWERMOBM	s1lowermobm: w1	S	Some difficulty-Missings in Lower Body Mob	Cont
2	S2LOWERMOBM	s2lowermobm: w2	S	Some difficulty-Missings in Lower Body Mob	Cont
3	S3LOWERMOBM	s3lowermobm: w3	S	Some difficulty-Missings in Lower Body Mob	Cont
4	S4LOWERMOBM	s4lowermobm: w4	S	Some difficulty-Missings in Lower Body Mob	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MOBILA	14113	0.95	1.37	0.00	5.00
R2MOBILA	12500	0.94	1.39	0.00	5.00
R3MOBILA	14446	1.08	1.46	0.00	5.00
R4MOBILA	13801	1.18	1.51	0.00	5.00
S1MOBILA	9973	0.85	1.30	0.00	5.00
S2MOBILA	8737	0.83	1.29	0.00	5.00
S3MOBILA	9865	0.96	1.39	0.00	5.00
S4MOBILA	9166	1.05	1.43	0.00	5.00
R1MOBILAM	15186	0.46	1.10	0.00	5.00
R2MOBILAM	13704	0.51	1.19	0.00	5.00
R3MOBILAM	15723	0.45	1.15	0.00	5.00
R4MOBILAM	14779	0.39	1.08	0.00	5.00
S1MOBILAM	10648	0.43	1.05	0.00	5.00
S2MOBILAM	9564	0.49	1.17	0.00	5.00
S3MOBILAM	10592	0.40	1.08	0.00	5.00
S4MOBILAM	9652	0.31	0.95	0.00	5.00
R1LGMUSA	14109	0.99	1.32	0.00	4.00
R2LGMUSA	12501	0.91	1.28	0.00	4.00
R3LGMUSA	14446	1.15	1.35	0.00	4.00
R4LGMUSA	13804	1.26	1.38	0.00	4.00
S1LGMUSA	9970	0.90	1.27	0.00	4.00
S2LGMUSA	8737	0.82	1.23	0.00	4.00
S3LGMUSA	9865	1.05	1.31	0.00	4.00
S4LGMUSA	9167	1.18	1.35	0.00	4.00
R1LGMUSAM	15186	0.31	1.03	0.00	4.00
R2LGMUSAM	13704	0.38	1.14	0.00	4.00
R3LGMUSAM	15723	0.35	1.10	0.00	4.00
R4LGMUSAM	14779	0.30	1.00	0.00	4.00
S1LGMUSAM	10648	0.28	0.98	0.00	4.00
S2LGMUSAM	9564	0.37	1.13	0.00	4.00
S3LGMUSAM	10592	0.30	1.02	0.00	4.00
S4LGMUSAM	9652	0.23	0.88	0.00	4.00
R1GROSSA	14113	0.41	0.94	0.00	5.00
R2GROSSA	12501	0.42	0.94	0.00	5.00
R3GROSSA	14446	0.51	1.00	0.00	5.00
R4GROSSA	13804	0.59	1.11	0.00	5.00
S1GROSSA	9973	0.35	0.86	0.00	5.00
S2GROSSA	8737	0.34	0.84	0.00	5.00
S3GROSSA	9865	0.43	0.92	0.00	5.00
S4GROSSA	9167	0.50	1.02	0.00	5.00
R1GROSSAM	15186	0.23	0.68	0.00	5.00
R2GROSSAM	13704	0.22	0.64	0.00	5.00
R3GROSSAM	15723	0.22	0.60	0.00	5.00
R4GROSSAM	14779	0.18	0.59	0.00	5.00
S1GROSSAM	10648	0.21	0.64	0.00	5.00

## Section B: Health

S2GROSSAM	9564	0.21	0.61	0.00	5.00
S3GROSSAM	10592	0.19	0.57	0.00	5.00
S4GROSSAM	9652	0.14	0.50	0.00	5.00
R1FINEA	14113	0.13	0.45	0.00	3.00
R2FINEA	12501	0.13	0.45	0.00	3.00
R3FINEA	14446	0.19	0.51	0.00	3.00
R4FINEA	13804	0.21	0.54	0.00	3.00
S1FINEA	9974	0.11	0.41	0.00	3.00
S2FINEA	8737	0.11	0.40	0.00	3.00
S3FINEA	9865	0.16	0.48	0.00	3.00
S4FINEA	9167	0.18	0.50	0.00	3.00
R1FINEAM	15186	0.16	0.54	0.00	3.00
R2FINEAM	13704	0.18	0.58	0.00	3.00
R3FINEAM	15723	0.17	0.55	0.00	3.00
R4FINEAM	14779	0.14	0.51	0.00	3.00
S1FINEAM	10648	0.15	0.51	0.00	3.00
S2FINEAM	9564	0.18	0.57	0.00	3.00
S3FINEAM	10592	0.14	0.51	0.00	3.00
S4FINEAM	9652	0.10	0.45	0.00	3.00
R1MOBILSEV	14110	1.45	1.81	0.00	7.00
R2MOBILSEV	12501	1.37	1.80	0.00	7.00
R3MOBILSEV	14446	1.68	1.89	0.00	7.00
R4MOBILSEV	13804	1.85	1.93	0.00	7.00
S1MOBILSEV	9970	1.30	1.73	0.00	7.00
S2MOBILSEV	8737	1.22	1.69	0.00	7.00
S3MOBILSEV	9865	1.51	1.82	0.00	7.00
S4MOBILSEV	9167	1.68	1.85	0.00	7.00
R1MOBILSEVM	15186	0.64	1.80	0.00	7.00
R2MOBILSEVM	13704	0.75	1.98	0.00	7.00
R3MOBILSEVM	15723	0.67	1.91	0.00	7.00
R4MOBILSEVM	14779	0.57	1.75	0.00	7.00
S1MOBILSEVM	10648	0.59	1.72	0.00	7.00
S2MOBILSEVM	9564	0.73	1.96	0.00	7.00
S3MOBILSEVM	10592	0.57	1.77	0.00	7.00
S4MOBILSEVM	9652	0.44	1.54	0.00	7.00
R1UPPERMOB	14105	0.35	0.70	0.00	3.00
R2UPPERMOB	12501	0.34	0.70	0.00	3.00
R3UPPERMOB	14446	0.44	0.76	0.00	3.00
R4UPPERMOB	13803	0.48	0.78	0.00	3.00
S1UPPERMOB	9968	0.29	0.66	0.00	3.00
S2UPPERMOB	8737	0.28	0.65	0.00	3.00
S3UPPERMOB	9865	0.38	0.72	0.00	3.00
S4UPPERMOB	9166	0.41	0.73	0.00	3.00
R1UPPERMOBM	15186	0.23	0.78	0.00	3.00
R2UPPERMOBM	13704	0.28	0.85	0.00	3.00
R3UPPERMOBM	15723	0.26	0.82	0.00	3.00
R4UPPERMOBM	14779	0.22	0.76	0.00	3.00
S1UPPERMOBM	10648	0.20	0.74	0.00	3.00
S2UPPERMOBM	9564	0.27	0.85	0.00	3.00
S3UPPERMOBM	10592	0.22	0.76	0.00	3.00
S4UPPERMOBM	9652	0.17	0.67	0.00	3.00
R1LOWERMOb	14110	1.10	1.30	0.00	4.00
R2LOWERMOb	12499	1.03	1.29	0.00	4.00
R3LOWERMOb	14446	1.24	1.34	0.00	4.00
R4LOWERMOb	13799	1.37	1.37	0.00	4.00

S1LOWERM0B	9970	1.01	1.26	0.00	4.00
S2LOWERM0B	8737	0.94	1.23	0.00	4.00
S3LOWERM0B	9865	1.13	1.31	0.00	4.00
S4LOWERM0B	9165	1.27	1.34	0.00	4.00
R1LOWERM0BM	15186	0.41	1.05	0.00	4.00
R2LOWERM0BM	13704	0.47	1.15	0.00	4.00
R3LOWERM0BM	15723	0.41	1.11	0.00	4.00
R4LOWERM0BM	14779	0.35	1.02	0.00	4.00
S1LOWERM0BM	10648	0.38	1.00	0.00	4.00
S2LOWERM0BM	9564	0.46	1.14	0.00	4.00
S3LOWERM0BM	10592	0.35	1.03	0.00	4.00
S4LOWERM0BM	9652	0.27	0.90	0.00	4.00

## How Constructed

Several summary measures for functional limitations are created. These include mobility and large muscle indices, gross and fine motor summaries, as well as total body mobility, upper body mobility, and lower body mobility summaries.

The mobility index uses the walking several blocks (RwWALKSA), walking across a room (RwWALKRA), climbing several flight of stairs (RwCLIMSA), and climbing one flight of stairs without resting (RwCLIM1A) activities. The large muscle index uses the sitting for about 2 hours (RwSITA), getting up from a chair after sitting for long periods (RwCHAIRA), stooping/kneeling/or crouching (RwSTOOPA), and pushing or pulling large objects (RwPUSHA) activities. The gross motor index uses the walking several blocks (RwWALKSA), walking across a room (RwWALKRA), climbing one flight of stairs without resting (RwCLIM1A), getting in or out of bed (RwBEDA), and bathing (RwBATHA) activities. The fine motor index uses the picking up a small coin (one peso) from the table (RwDIMEA), eating (RwEATA), and dressing activities (RwDRESSA). The alternative total body mobility index uses the walking one block (RwWALK1A), climbing several flights of stairs (RwCLIMSA), getting up from a chair after sitting for long periods (RwCHAIRA), stooping/kneeling/or crouching (RwSTOOPA), reaching or extending arms above shoulder level (RwARMSA), lifting or carrying objects weighting over 5 kg (RwLIFTA), and picking up a 1 peso coin from the table (RwDIMEA) activities. The upper body mobility index uses the reaching or extending arms above shoulder level (RwARMSA), lifting or carrying objects weighting over 5 kg (RwLIFTA), and picking up a 1 peso coin from the table (RwDIMEA) activities. The lower body mobility index uses the walking one block (RwWALK1A), climbing several flights of stairs (RwCLIMSA), getting up from a chair after sitting for long periods (RwCHAIRA), and stooping/kneeling/or crouching (RwSTOOPA) activities. In all waves the indicators of "some difficulty" are used to construct these measures. Each limitation adds one to the summary measures even if one or more measures have missing special values and if at least one of the IADL components was completed, that is:

RwMOBILA= sum (RwWALKSA RwWALK1A RwWALKRA RwCLIMSA RwCLIM1A). RwMOBILAM is the number of mobility questions with missing values, ranging from 0 to 5. RwMOBILA is calculated for all respondents who answered at least one of the mobility component questions.

RwLGMUSA= sum (RwSITA, RwCHAIRA, RwSTOOPA, RwPUSHA). RwLGMUSAM is the number of large muscle questions with missing values, ranging from 0 to 4. RwLGMUSA is calculated for all respondents who answered at least one of the large muscle component questions.

RwGROSSA= sum (RwWALK1A, RwWALKRA, RwCLIM1A, RwBEDA, RwBATHA). RwGROSSAM is the number of gross motor questions with missing values, ranging from 0 to 5. RwGROSSA is calculated for all respondents who answered at least one of the gross motor component questions.

RwFINEA= sum (RwDIMEA, RwEATA, RwDRESSA). RwFINEAM is the number of fine motor questions with missing values, ranging from 0 to 3. RwFINEA is calculated for all respondents who answered at least one of the fine motor component questions.

RwMOBILSEV= sum (RwWALK1A, RwCLIMSA, RwCHAIRA, RwSTOOPA, RwARMSA, RwLIFTA, RwDIMEA). RwMOBILSEVM is the number of alternative total body mobility questions with missing values, ranging from 0 to 7. RwMOBILSEV is calculated for all respondents who answered at least one of the alternative mobility component questions.

RwUPPERMOB= sum (RwARMSA, RwLIFTA, RwDIMEA). RwUPPERMOBM is the number of upper body mobility questions with missing values, ranging from 0 to 3. RwUPPERMOB is calculated for all respondents who answered at least one of the upper body mobility component questions.

RwLOWERMOb= sum (RwWALK1A, RwCLIMSA, RwCHAIRA, RwSTOOPA). RwLOWERMObM is the number of lower body mobility questions with missing values, ranging from 0 to 4. RwLOWERMOb is calculated for all respondents who answered at least one of the lower body mobility component questions.

RwMOBILA, RwLGMUSA, RwGROSSA, RwfINEA, RwMOBILSEV, RwUPPERMOB, and RwLOWERMOb are assigned special missing .d, .r, .x, .p, .m, for don't know, refused, doesn't do, proxy, or otherwise missing responses, respectively. These variables are assigned a blank missing (.) for respondents who did not participate in the current wave.

SwMOBILA, SwLGMUSA, SwGROSSA, SwFINEA, SwMOBILSEV, SwUPPERMOB, and SwLOWERMOb are the respondent's spouse's indices and are taken directly from the spouse's RwMOBILA, RwLGMUSA, RwGROSSA, RwfINEA, RwMOBILSEV, RwUPPERMOB, and RwLOWERMOb, respectively. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used for the spouse variables. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used for the spouse variables.

SwMOBILAM, SwLGMUSAM, SwGROSSAM, SwFINEAM, SwMOBILSEVM, SwUPPERMOBM, and SwLOWERMObM are taken directly from the spouse's values of RwMOBILBM, RwLGMUSAM, RwGROSSAM, RwfINEAM, RwMOBILSEVM, RwUPPERMOBM, and RwLOWERMObM, respectively. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used for the spouse variables. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used for the spouse variables.

Please see "Activities of Daily Living (ADLs): Some difficulty" for a description of how the individual 0/1 indicators (RwWALKRA, RwBEDA, RwBATHA, RweATA, and RwdRESSA) are constructed. See "Other Functional Limitations: Some difficulty" for a description of how the individual 0/1 indicators (RwWALK1A, RwCLIMSA, RwCLIM1A, RwsITA, RwCHAIRA, RwSTOOPA, RwpUSHA, RwdIMEA, RwarMSA, and RwlIFTA) are constructed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H2	running
H3	short walk
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

## Wave 2:

H1 health problems-trouble walking blocks  
H10 health problems-trouble pushing or pulling  
H11 health problems-trouble carrying objects  
H12 health problems-trouble picking up a coin  
H13 health problems-trouble dressing self  
H14 someone help you to get dressed  
H15A health problem-trouble walking  
H15E spouse helps  
H15F additional person helps  
H16A health problem-have trouble bathing  
H16E spouse helps  
H16F additional person helps  
H17A health problem-trouble eating or cutting  
H17E spouse helps  
H17F additional person helps  
H18A health problem-get in/out of bed  
H18E spouse helps  
H18F additional person helps  
H2 health problems-trouble running  
H3 health problems-trouble walking a block  
H4 health problems-trouble staying seated  
H5 health problems-trouble getting up from chair  
H6 health problems-trouble with flights of stairs  
H7 health problems-trouble with 1 flight of stairs  
H8 health problems-trouble sitting up  
H9 health problems-trouble lifting arms

## Wave 3:

H10\_12 Because of health problem, difficulty pushing or pullin  
H11\_12 Because of health problem, difficulty carrying objects  
H12\_12 Because of health problem, difficulty picking up a coin  
H13\_12 Because of health problem, difficulty dressing self  
H14\_12 Someone help you to get dressed  
H15A\_12 Because of health problem, difficulty walking  
H15D\_12 Someone help you walk across room  
H16A\_12 Because of health problem, difficulty bathing  
H16D\_12 Someone help you to bathe or shower  
H17A\_12 Because of health problem, difficulty eating or cutting  
H17D\_12 Does someone help you eat your food  
H18A\_12 Because of health problem, difficulty get in/out of bed  
H18D\_12 Does someone help you get into or out of bed  
H19A\_12 Because of health problem, difficulty going to the bath  
H19D\_12 Does someone help you use toilet, get on off  
H1\_12 Because of health problem, difficulty walking blocks  
H2\_12 Because of health problem, difficulty running  
H3\_12 Because of health problem, difficulty walking a block  
H4\_12 Because of health problem, difficulty staying seated  
H5\_12 Because of health problem, difficulty getting up from c  
H6\_12 Because of health problem, difficulty with flights of s  
H7\_12 Because of health problem, difficulty with 1 flight of  
H8\_12 Because of health problem, difficulty sitting up  
H9\_12 Because of health problem, difficulty lifting arms

## Wave 4:

H10\_15 Because of health problem, does respondent have difficu  
H11\_15 Because of health problem, does respondent have difficu  
H12\_15 Because of health problem, does respondent have difficu  
H13\_15 Because of health problem, does respondent have difficu  
H14\_15 Does someone help respondent to get dressed  
H15A\_15 Because of health problem, does respondent have any dif  
H15D\_15 Does someone help respondent walking across a room  
H16A\_15 Because of health problem, does respondent have any dif  
H16D\_15 Does someone help respondent bathing or showering  
H17A\_15 Because of health problem, does respondent have any dif  
H17D\_15 Does someone help respondent eating  
H18A\_15 Because of health problem, does respondent have any dif  
H18D\_15 Does someone help respondent getting in or out of bed  
H19A\_15 Because of health problem, does respondent have any dif  
H19D\_15 Does someone help respondent using the toilet  
H1\_15 Because of health problem, does respondent have difficu



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H2_15	Because of health problem, does respondent have difficu
H3_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu

<b>Doctor Diagnosed Health Problems: Ever Have Condition</b>
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Wave	Variable	Label	Type
1	R1HIBPE	r1hibpe: w1 R Ever had high blood pressure	Categ
2	R2HIBPE	r2hibpe: w2 R Ever had high blood pressure	Categ
3	R3HIBPE	r3hibpe: w3 R Ever had high blood pressure	Categ
4	R4HIBPE	r4hibpe: w4 R Ever had high blood pressure	Categ
1	S1HIBPE	s1hibpe: w1 S Ever had high blood pressure	Categ
2	S2HIBPE	s2hibpe: w2 S Ever had high blood pressure	Categ
3	S3HIBPE	s3hibpe: w3 S Ever had high blood pressure	Categ
4	S4HIBPE	s4hibpe: w4 S Ever had high blood pressure	Categ
1	R1DIABE	r1diabe: w1 R Ever had diabetes	Categ
2	R2DIABE	r2diabe: w2 R Ever had diabetes	Categ
3	R3DIABE	r3diabe: w3 R Ever had diabetes	Categ
4	R4DIABE	r4diabe: w4 R Ever had diabetes	Categ
1	S1DIABE	s1diabe: w1 S Ever had diabetes	Categ
2	S2DIABE	s2diabe: w2 S Ever had diabetes	Categ
3	S3DIABE	s3diabe: w3 S Ever had diabetes	Categ
4	S4DIABE	s4diabe: w4 S Ever had diabetes	Categ
1	R1CANCRE	r1cancre: w1 R Ever had cancer	Categ
2	R2CANCRE	r2cancre: w2 R Ever had cancer	Categ
3	R3CANCRE	r3cancre: w3 R Ever had cancer	Categ
4	R4CANCRE	r4cancre: w4 R Ever had cancer	Categ
1	S1CANCRE	s1cancre: w1 S Ever had cancer	Categ
2	S2CANCRE	s2cancre: w2 S Ever had cancer	Categ
3	S3CANCRE	s3cancre: w3 S Ever had cancer	Categ
4	S4CANCRE	s4cancre: w4 S Ever had cancer	Categ
1	R1LUNGE_M	r1lunge_m: w1 R Ever had lung disease	Categ
2	R2LUNGE_M	r2lunge_m: w2 R Ever had lung disease	Categ
3	R3LUNGE_M	r3lunge_m: w3 R Ever had lung disease	Categ
4	R4LUNGE_M	r4lunge_m: w4 R Ever had lung disease	Categ
1	S1LUNGE_M	s1lunge_m: w1 S Ever had lung disease	Categ
2	S2LUNGE_M	s2lunge_m: w2 S Ever had lung disease	Categ
3	S3LUNGE_M	s3lunge_m: w3 S Ever had lung disease	Categ
4	S4LUNGE_M	s4lunge_m: w4 S Ever had lung disease	Categ
1	R1HRTATTE	r1hrtatte: w1 R Ever had heart attack	Categ
2	R2HRTATTE	r2hrtatte: w2 R Ever had heart attack	Categ
3	R3HRTATTE	r3hrtatte: w3 R Ever had heart attack	Categ
4	R4HRTATTE	r4hrtatte: w4 R Ever had heart attack	Categ
1	S1HRTATTE	s1hrtatte: w1 S Ever had heart attack	Categ
2	S2HRTATTE	s2hrtatte: w2 S Ever had heart attack	Categ
3	S3HRTATTE	s3hrtatte: w3 S Ever had heart attack	Categ
4	S4HRTATTE	s4hrtatte: w4 S Ever had heart attack	Categ
4	R4HEARTE	r4hearte: w4 R Ever had heart problems	Categ
4	S4HEARTE	s4hearte: w4 S Ever had heart problems	Categ
1	R1STROKE	r1stroke: w1 R Ever had stroke	Categ
2	R2STROKE	r2stroke: w2 R Ever had stroke	Categ
3	R3STROKE	r3stroke: w3 R Ever had stroke	Categ
4	R4STROKE	r4stroke: w4 R Ever had stroke	Categ
1	S1STROKE	s1stroke: w1 S Ever had stroke	Categ
2	S2STROKE	s2stroke: w2 S Ever had stroke	Categ
3	S3STROKE	s3stroke: w3 S Ever had stroke	Categ
4	S4STROKE	s4stroke: w4 S Ever had stroke	Categ

1	R1ARTHRE	r1arthre: w1 R Ever had arthritis	Categ
2	R2ARTHRE	r2arthre: w2 R Ever had arthritis	Categ
3	R3ARTHRE	r3arthre: w3 R Ever had arthritis	Categ
4	R4ARTHRE	r4arthre: w4 R Ever had arthritis	Categ
1	S1ARTHRE	s1arthre: w1 S Ever had arthritis	Categ
2	S2ARTHRE	s2arthre: w2 S Ever had arthritis	Categ
3	S3ARTHRE	s3arthre: w3 S Ever had arthritis	Categ
4	S4ARTHRE	s4arthre: w4 S Ever had arthritis	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HIBPE	14704	0.38	0.48	0.00	1.00
R2HIBPE	14303	0.50	0.50	0.00	1.00
R3HIBPE	18375	0.58	0.49	0.00	1.00
R4HIBPE	17897	0.62	0.48	0.00	1.00
S1HIBPE	10303	0.36	0.48	0.00	1.00
S2HIBPE	9697	0.46	0.50	0.00	1.00
S3HIBPE	10573	0.48	0.50	0.00	1.00
S4HIBPE	9676	0.51	0.50	0.00	1.00
R1DIABE	14721	0.16	0.36	0.00	1.00
R2DIABE	13967	0.21	0.41	0.00	1.00
R3DIABE	17064	0.30	0.46	0.00	1.00
R4DIABE	16388	0.33	0.47	0.00	1.00
S1DIABE	10314	0.16	0.36	0.00	1.00
S2DIABE	9635	0.20	0.40	0.00	1.00
S3DIABE	10577	0.23	0.42	0.00	1.00
S4DIABE	9651	0.26	0.44	0.00	1.00
R1CANCRE	14733	0.02	0.14	0.00	1.00
R2CANCRE	13723	0.03	0.16	0.00	1.00
R3CANCRE	15883	0.04	0.20	0.00	1.00
R4CANCRE	14969	0.05	0.21	0.00	1.00
S1CANCRE	10320	0.02	0.14	0.00	1.00
S2CANCRE	9554	0.02	0.15	0.00	1.00
S3CANCRE	10579	0.03	0.17	0.00	1.00
S4CANCRE	9645	0.03	0.18	0.00	1.00
R1LUNGE_M	14742	0.06	0.24	0.00	1.00
R2LUNGE_M	13781	0.09	0.29	0.00	1.00
R3LUNGE_M	16235	0.12	0.32	0.00	1.00
R4LUNGE_M	15372	0.13	0.33	0.00	1.00
S1LUNGE_M	10330	0.06	0.23	0.00	1.00
S2LUNGE_M	9582	0.08	0.28	0.00	1.00
S3LUNGE_M	10579	0.08	0.27	0.00	1.00
S4LUNGE_M	9651	0.08	0.27	0.00	1.00
R1HRTATTE	14727	0.03	0.18	0.00	1.00
R2HRTATTE	13683	0.05	0.21	0.00	1.00
R3HRTATTE	15700	0.05	0.22	0.00	1.00
R4HRTATTE	14767	0.07	0.25	0.00	1.00
S1HRTATTE	10322	0.03	0.18	0.00	1.00
S2HRTATTE	9550	0.05	0.21	0.00	1.00
S3HRTATTE	10579	0.05	0.22	0.00	1.00
S4HRTATTE	9646	0.06	0.25	0.00	1.00
R4HEARTE	14775	0.09	0.29	0.00	1.00
S4HEARTE	9650	0.09	0.28	0.00	1.00

R1STROKE	14730	0.03	0.16	0.00	1.00
R2STROKE	13695	0.03	0.17	0.00	1.00
R3STROKE	15707	0.03	0.18	0.00	1.00
R4STROKE	15146	0.07	0.25	0.00	1.00
S1STROKE	10322	0.02	0.15	0.00	1.00
S2STROKE	9558	0.03	0.16	0.00	1.00
S3STROKE	10584	0.03	0.17	0.00	1.00
S4STROKE	9650	0.04	0.19	0.00	1.00
R1ARTHRE	14727	0.20	0.40	0.00	1.00
R2ARTHRE	13980	0.29	0.45	0.00	1.00
R3ARTHRE	17250	0.30	0.46	0.00	1.00
R4ARTHRE	16604	0.33	0.47	0.00	1.00
S1ARTHRE	10319	0.17	0.38	0.00	1.00
S2ARTHRE	9606	0.25	0.44	0.00	1.00
S3ARTHRE	10574	0.20	0.40	0.00	1.00
S4ARTHRE	9654	0.21	0.41	0.00	1.00

### Categorical Variable Codes

Value-----	R1HIBPE	R2HIBPE	R3HIBPE	R4HIBPE
.d:DK	45	36	33	15
.m:Missing	4			
.r:Refuse	38		3	3
.s:Skip	395			
0.no	9153	7194	7727	6762
1.yes	5551	7109	10648	11135

Value-----	S1HIBPE	S2HIBPE	S3HIBPE	S4HIBPE
.d:DK	31	26	18	8
.m:Missing	3			
.r:Refuse	28		1	1
.s:Skip	283			
.u:Unmar	4205	3887	4782	4846
.v:SP NR	333	94	349	248
0.no	6631	5195	5509	4710
1.yes	3672	4502	5064	4966

Value-----	R1DIABE	R2DIABE	R3DIABE	R4DIABE
.d:DK	33	49	29	15
.m:Missing	4			
.r:Refuse	33	2	3	4
.s:Skip	395			
0.no	12437	11062	11989	10972
1.yes	2284	2905	5075	5416

Value-----	S1DIABE	S2DIABE	S3DIABE	S4DIABE
.d:DK	23	36	13	8
.m:Missing	3			
.r:Refuse	25	1	2	2
.s:Skip	283			
.u:Unmar	4205	3922	4782	4847
.v:SP NR	333	110	349	271
0.no	8713	7706	8099	7178
1.yes	1601	1929	2478	2473

Value-----	R1CANCRE	R2CANCRE	R3CANCRE	R4CANCRE
.d:DK	22	34	22	14
.m:Missing	4			
.r:Refuse	32		5	2
.s:Skip	395			
0.no	14434	13354	15218	14276
1.yes	299	369	665	693

Value-----	S1CANCRE	S2CANCRE	S3CANCRE	S4CANCRE
.d:DK	18	27	10	9
.m:Missing	3			
.r:Refuse	24		3	
.s:Skip	283			
.u:Unmar	4205	3994	4782	4847
.v:SP NR	333	129	349	278
0.no	10112	9324	10272	9324

1.yes	208	230	307	321
Value-----	R1LUNGE_M	R2LUNGE_M	R3LUNGE_M	R4LUNGE_M
.d:DK	14	33	23	6
.m:Missing	4			
.r:Refuse	31	2	3	4
.s:Skip	395			
0.no	13828	12510	14302	13409
1.yes	914	1271	1933	1963
Value-----	S1LUNGE_M	S2LUNGE_M	S3LUNGE_M	S4LUNGE_M
.d:DK	8	23	11	2
.m:Missing	3			
.r:Refuse	24	1	2	3
.s:Skip	283			
.u:Unmar	4205	3973	4782	4847
.v:SP NR	333	125	349	276
0.no	9727	8791	9735	8856
1.yes	603	791	844	795
Value-----	R1HRTATTE	R2HRTATTE	R3HRTATTE	R4HRTATTE
.d:DK	24	18	16	9
.m:Missing	4			1
.r:Refuse	36	3	7	2
.s:Skip	395			
0.no	14239	13048	14886	13791
1.yes	488	635	814	976
Value-----	S1HRTATTE	S2HRTATTE	S3HRTATTE	S4HRTATTE
.d:DK	15	11	7	4
.m:Missing	3			
.r:Refuse	25	3	6	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	9982	9106	10059	9024
1.yes	340	444	520	622
Value-----				R4HEARTE
.d:DK				3
.m:Missing				1
0.no				13442
1.yes				1333
Value-----				S4HEARTE
.d:DK				2
.u:Unmar				4847
.v:SP NR				280
0.no				8824
1.yes				826
Value-----	R1STROKE	R2STROKE	R3STROKE	R4STROKE
.d:DK	18	8	12	9
.m:Missing	4			1
.r:Refuse	39	1	4	4
.s:Skip	395			
0.no	14339	13265	15176	14150
1.yes	391	430	531	996
Value-----	S1STROKE	S2STROKE	S3STROKE	S4STROKE
.d:DK	13	5	5	5
.m:Missing	3			
.r:Refuse	27	1	3	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	275
0.no	10079	9292	10273	9298
1.yes	243	266	311	352
Value-----	R1ARTHRE	R2ARTHRE	R3ARTHRE	R4ARTHRE
.d:DK	27	16	20	14
.m:Missing	4			1
.r:Refuse	33		5	5
.s:Skip	395			
0.no	11846	9907	11997	11197
1.yes	2881	4073	5253	5407
Value-----	S1ARTHRE	S2ARTHRE	S3ARTHRE	S4ARTHRE

.d:DK	20	11	14	9
.m:Missing	3			
.r:Refuse	23		4	3
.s:Skip	283			
.u:Unmar	4205	3968	4782	4847
.v:SP NR	333	119	349	266
0.no	8545	7167	8417	7630
1.yes	1774	2439	2157	2024

## How Constructed

RwHIBPE, RwDIABE, RwcANCRE, RwlUNGE\_M, RwhRTATTE, RwhEARTE, RwSTROKE, and RwarTHRE indicate whether or not a doctor has ever told the respondent he/she had or currently has these conditions. A code of 0 indicates that the respondent does not report having been told by a doctor he/she has the condition. A code of 1 indicates that the respondent reports having been told by a doctor he/she has the condition. When respondents "don't know" or refuse to answer, RwhIBPE, RwdIABE, RwcANCRE, RwlUNGE\_M, RwhRTATTE, RwhEARTE, RwSTROKE, and RwarTHRE are assigned special missing values .d or .r, respectively. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

RwHIBPE indicates whether a doctor has told the respondent he/she had or currently has hypertension or high blood pressure. RwdIABE indicates whether a doctor has told the respondent he/she had or currently has diabetes or high blood sugar. RwcANCRE indicates whether a doctor has told the respondent he/she had or currently has cancer. RwlUNGE\_M indicates whether a doctor has told the respondent he/she had or currently has a respiratory illness, such as asthma or emphysema. RwhRTATTE indicates whether a doctor has told the respondent he/she had a heart attack. RwhEARTE indicates whether a doctor has told the respondent he/she had a heart condition, such as heart failure/cardiac failure/congestive heart failure, arrhythmia, angina, or a heart attack. RwSTROKE indicates whether a doctor has told the respondent he/she had a stroke. RwarTHRE indicates whether a doctor has told the respondent he/she had or currently has arthritis or rheumatism.

SwHIBPE, SwDIABE, SwcANCRE, SwlUNGE\_M, SwhRTATTE, SwhEARTE, SwSTROKE, and SwarTHRE indicate whether the respondent's spouse reported ever being told by a doctor he/she had or currently has any of these conditions described above and are taken directly from the spouse's RwhIBPE, RwdIABE, RwcANCRE, RwlUNGE\_M, RwhRTATTE, RwhEARTE, RwSTROKE, and RwarTHRE, respectively. In addition to the special missing codes used in RwhIBPE, RwdIABE, RwcANCRE, RwlUNGE\_M, RwhRTATTE, RwhEARTE, RwSTROKE, and RwarTHRE; SwHIBPE, SwDIABE, SwcANCRE, SwlUNGE\_M, SwhRTATTE, SwhEARTE, SwSTROKE, and SwarTHRE employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In wave 1, for all the conditions, respondents were asked "Has a doctor or medical personnel ever told you that you have/have had [...]?".

In wave 2, respondents were asked if "a doctor or medical personnel diagnosed him/her with" hypertension, cancer, diabetes, respiratory illness, or arthritis. They were also asked if "a doctor or medical personnel ever told them they have had" a heart attack or a stroke. In addition, while follow-up respondents were asked about the last two years, new respondents were asked if "a doctor or medical personnel ever diagnosed him/her (or told him/her that he/she had) [...]". To construct R2HIBPE, R2DIABE, R2cANCRE\_M, R2LUNGE\_M, R2hRTATTE, R2STROKE, and R2arTHRE a code of 1 was also assigned if a respondent reported in the previous wave having the condition, that is Rw[condition] equal 1.

Starting in wave 3, respondents were asked if a doctor or medical personnel ever diagnosed him/her or told him he/she have had a condition, with disregard of the type of interview (follow-up or new sample). To construct RwhIBPE, RwdIABE, RwcANCRE\_M, RwlUNGE\_M, RwhRTATTE, RwSTROKE, and RwarTHRE a code of 1 was also assigned if a respondent reported in the previous waves having the condition, that is Rw[condition] equal 1.

Also the definition of cancer changes across waves. Respondents were asked during the first and third waves if they were ever (or in the last two years) diagnosed with cancer. However, during the second wave, they were asked if they were told that they have (or had) cancer or a malignant tumor, excluding minor skin cancer.

Starting in wave 3, respondents are also asked if a doctor or medical personnel ever told you that you have had heart problem such as heart failure, cardiac failure, congestive heart failure,

arrhythmia, or angina. However, in wave 3, this question is skipped if the respondent reported not having had a heart attack. RWHEARTE is only included starting in wave 4.

## Differences with the RAND HRS/Harmonized HRS

In follow-up interviews in the HRS, respondents are read a statement containing conditions they reported at prior waves. Respondents are able to dispute any incorrect reports. However, in the MHAS the timing of the health questions changed across waves. In wave 2, during follow-up interviews, respondents were asked if in the last two years they were diagnosed with a condition or if a doctor told them they had a condition. Also, during new interviews respondents were asked if they were ever diagnosed (or ever had) a condition. Thus, to construct the health condition variables for wave 2, a code of 1 is assigned if follow-up respondents reported having the condition in the previous wave, that is wave 1. Starting in wave 3, all respondent with disregard of the type of interview (follow-up of new sample) were asked if they ever had or have the condition.

Also different to the MHAS is the definition of some of the health conditions. First, respondents were asked during the first and third waves if they were ever (or in the last two years) diagnosed with cancer. However, during the second wave, they were asked if they were told that they have (or had) cancer or a malignant tumor, excluding minor skin cancer. In the HRS, the cancer question consistently asks respondents to exclude minor skin cancer.

Second, respondents were asked if they were ever told/diagnosed with a respiratory illness, such as asthma or emphysema. In the HRS, the chronic lung disease definition includes chronic bronchitis or emphysema and excludes asthma. In this case, an MHAS specific variable (RwLUNGE\_M) was also created for all the waves.

Finally, to determine if the respondent had a heart problem, respondents were asked if they ever had (or in the past two years) a heart problem including heart failure, cardiac failure, congestive heart failure, or arrhythmia. However in the HRS, the questions include myocardial infarction or coronary thrombosis, or any other heart problem, including congestive heart failure. As such, reports of heart attack have been incorporated into RWHEARTE in the Harmonized MHAS to provide a comparable measure to RWHEARTE in the RAND HRS.

## MHAS Variables Used

### Wave 1:

C12	cancer or tumor
C19	respiratory illness
C22	heart attack
C27	stroke
C34	arthritis or rheumatism
C4	hypertension
C6	diabetes

### Wave 2:

C12	doctor ever say you have cancer
C19	doctor ever say you have a respiratory disease
C22A	doctor ever say you had a heart attack
C26	doctor ever say you had a stroke
C32	doctor ever say you have arthritis
C4	doctor ever say you have hypertension
C6	doctor ever say you have diabetes

### Wave 3:

C12_12	Has a physician diagnosed respondent...cancer
C19_12	Has a physician diagnosed respondent...respiratory illness
C22A_12	Has a physician ever told respondent...heart attack
C26_12	Ever/last 2 years:Has a physician told respondent...stroke
C32_12	Has a physician diagnosed respondent with arthritis/rheumatism
C4_12	Has a physician diagnosed...hypertension/high blood pressure
C6_12	Has a physician diagnosed respondent...diabetes

### Wave 4:

C12_15	Has a doctor or medical personnel ever diagnosed respondent
C19_15	Has a doctor or medical personnel ever diagnosed respondent
C22A_15	Has a doctor or medical personnel ever told respondent
C26_15	Has a doctor or medical personnel ever told respondent
C32_15	Has a doctor or medical personnel ever diagnosed respondent
C4_15	Has a doctor or medical personnel ever diagnosed respondent
C6_15	Has a doctor or medical personnel ever diagnosed respondent

<b>Doctor Diagnosed Diseases: Whether Receives Treatment or Medication for Disease</b>
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Wave	Variable	Label	Type
1	R1RXHIBP	r1rxhibp: w1 Whether R takes meds for high blood pressure	Categ
2	R2RXHIBP	r2rxhibp: w2 Whether R takes meds for high blood pressure	Categ
3	R3RXHIBP	r3rxhibp: w3 Whether R takes meds for high blood pressure	Categ
4	R4RXHIBP	r4rxhibp: w4 Whether R takes meds for high blood pressure	Categ
1	S1RXHIBP	s1rxhibp: w1 Whether S takes meds for high blood pressure	Categ
2	S2RXHIBP	s2rxhibp: w2 Whether S takes meds for high blood pressure	Categ
3	S3RXHIBP	s3rxhibp: w3 Whether S takes meds for high blood pressure	Categ
4	S4RXHIBP	s4rxhibp: w4 Whether S takes meds for high blood pressure	Categ
1	R1RXDIABO	r1rxdiabo: w1 Whether R takes oral meds for diabetes	Categ
2	R2RXDIABO	r2rxdiabo: w2 Whether R takes oral meds for diabetes	Categ
3	R3RXDIABO	r3rxdiabo: w3 Whether R takes oral meds for diabetes	Categ
4	R4RXDIABO	r4rxdiabo: w4 Whether R takes oral meds for diabetes	Categ
1	S1RXDIABO	s1rxdiabo: w1 Whether S takes oral meds for diabetes	Categ
2	S2RXDIABO	s2rxdiabo: w2 Whether S takes oral meds for diabetes	Categ
3	S3RXDIABO	s3rxdiabo: w3 Whether S takes oral meds for diabetes	Categ
4	S4RXDIABO	s4rxdiabo: w4 Whether S takes oral meds for diabetes	Categ
1	R1RXDIABI	r1rxdiabi: w1 Whether R takes insulin for diabetes	Categ
2	R2RXDIABI	r2rxdiabi: w2 Whether R takes insulin for diabetes	Categ
3	R3RXDIABI	r3rxdiabi: w3 Whether R takes insulin for diabetes	Categ
4	R4RXDIABI	r4rxdiabi: w4 Whether R takes insulin for diabetes	Categ
1	S1RXDIABI	s1rxdiabi: w1 Whether S takes insulin for diabetes	Categ
2	S2RXDIABI	s2rxdiabi: w2 Whether S takes insulin for diabetes	Categ
3	S3RXDIABI	s3rxdiabi: w3 Whether S takes insulin for diabetes	Categ
4	S4RXDIABI	s4rxdiabi: w4 Whether S takes insulin for diabetes	Categ
1	R1RXDIAB	r1rxdiab: w1 Whether R takes meds for diabetes (oral or insu	Categ
2	R2RXDIAB	r2rxdiab: w2 Whether R takes meds for diabetes (oral or insu	Categ
3	R3RXDIAB	r3rxdiab: w3 Whether R takes meds for diabetes (oral or insu	Categ
4	R4RXDIAB	r4rxdiab: w4 Whether R takes meds for diabetes (oral or insu	Categ
1	S1RXDIAB	s1rxdiab: w1 Whether S takes meds for diabetes (oral or inul	Categ
2	S2RXDIAB	s2rxdiab: w2 Whether S takes meds for diabetes (oral or inul	Categ
3	S3RXDIAB	s3rxdiab: w3 Whether S takes meds for diabetes (oral or inul	Categ
4	S4RXDIAB	s4rxdiab: w4 Whether S takes meds for diabetes (oral or inul	Categ
1	R1CNCRCHEM	r1cncrchem: w1 R received treatment for cancer (chemotherapy	Categ
2	R2CNCRCHEM	r2cncrchem: w2 R received treatment for cancer (chemotherapy	Categ
3	R3CNCRCHEM	r3cncrchem: w3 R received treatment for cancer (chemotherapy	Categ
4	R4CNCRCHEM	r4cncrchem: w4 R received treatment for cancer (chemotherapy	Categ
1	S1CNCRCHEM	s1cncrchem: w1 S received treatment for cancer (chemotherapy	Categ
2	S2CNCRCHEM	s2cncrchem: w2 S received treatment for cancer (chemotherapy	Categ
3	S3CNCRCHEM	s3cncrchem: w3 S received treatment for cancer (chemotherapy	Categ
4	S4CNCRCHEM	s4cncrchem: w4 S received treatment for cancer (chemotherapy	Categ
1	R1CNCRSURG	r1cncrsurg: w1 R received treatment for cancer (surgery)	Categ
2	R2CNCRSURG	r2cncrsurg: w2 R received treatment for cancer (surgery)	Categ
3	R3CNCRSURG	r3cncrsurg: w3 R received treatment for cancer (surgery)	Categ
4	R4CNCRSURG	r4cncrsurg: w4 R received treatment for cancer (surgery)	Categ
1	S1CNCRSURG	s1cncrsurg: w1 S received treatment for cancer (surgery)	Categ
2	S2CNCRSURG	s2cncrsurg: w2 S received treatment for cancer (surgery)	Categ
3	S3CNCRSURG	s3cncrsurg: w3 S received treatment for cancer (surgery)	Categ
4	S4CNCRSURG	s4cncrsurg: w4 S received treatment for cancer (surgery)	Categ
1	R1CNCRRADN	r1cncrradn: w1 R received treatment for cancer (radiation/xr	Categ
2	R2CNCRRADN	r2cncrradn: w2 R received treatment for cancer (radiation/xr	Categ
3	R3CNCRRADN	r3cncrradn: w3 R received treatment for cancer (radiation/xr	Categ



4	R4CNCRRADN	r4cncrradn: w4 R received treatment for cancer (radiation/xr	Categ
1	S1CNCRRADN	s1cncrradn: w1 S received treatment for cancer (radiation/xr	Categ
2	S2CNCRRADN	s2cncrradn: w2 S received treatment for cancer (radiation/xr	Categ
3	S3CNCRRADN	s3cncrradn: w3 S received treatment for cancer (radiation/xr	Categ
4	S4CNCRRADN	s4cncrradn: w4 S received treatment for cancer (radiation/xr	Categ
1	R1CNCRMEDS	r1cncrmeds: w1 R received treatment for cancer (meds for sym	Categ
2	R2CNCRMEDS	r2cncrmeds: w2 R received treatment for cancer (meds for sym	Categ
3	R3CNCRMEDS	r3cncrmeds: w3 R received treatment for cancer (meds for sym	Categ
4	R4CNCRMEDS	r4cncrmeds: w4 R received treatment for cancer (meds for sym	Categ
1	S1CNCRMEDS	s1cncrmeds: w1 S received treatment for cancer (meds for sym	Categ
2	S2CNCRMEDS	s2cncrmeds: w2 S received treatment for cancer (meds for sym	Categ
3	S3CNCRMEDS	s3cncrmeds: w3 S received treatment for cancer (meds for sym	Categ
4	S4CNCRMEDS	s4cncrmeds: w4 S received treatment for cancer (meds for sym	Categ
1	R1CNCROTHR	r1cncrothr: w1 R received treatment for cancer (other)	Categ
2	R2CNCROTHR	r2cncrothr: w2 R received treatment for cancer (other)	Categ
3	R3CNCROTHR	r3cncrothr: w3 R received treatment for cancer (other)	Categ
4	R4CNCROTHR	r4cncrothr: w4 R received treatment for cancer (other)	Categ
1	S1CNCROTHR	s1cncrothr: w1 S received treatment for cancer (meds for sym	Categ
2	S2CNCROTHR	s2cncrothr: w2 S received treatment for cancer (meds for sym	Categ
3	S3CNCROTHR	s3cncrothr: w3 S received treatment for cancer (meds for sym	Categ
4	S4CNCROTHR	s4cncrothr: w4 S received treatment for cancer (meds for sym	Categ
1	R1RXLUNG_M	r1rxlung_m: w1 Whether R takes meds for lung disease	Categ
2	R2RXLUNG_M	r2rxlung_m: w2 Whether R takes meds for lung disease	Categ
3	R3RXLUNG_M	r3rxlung_m: w3 Whether R takes meds for lung disease	Categ
4	R4RXLUNG_M	r4rxlung_m: w4 Whether R takes meds for lung disease	Categ
1	S1RXLUNG_M	s1rxlung_m: w1 Whether S takes meds for lung disease	Categ
2	S2RXLUNG_M	s2rxlung_m: w2 Whether S takes meds for lung disease	Categ
3	S3RXLUNG_M	s3rxlung_m: w3 Whether S takes meds for lung disease	Categ
4	S4RXLUNG_M	s4rxlung_m: w4 Whether S takes meds for lung disease	Categ
1	R1RXHRTAT	r1rxhrtat: w1 Whether R takes meds for heart attack	Categ
2	R2RXHRTAT	r2rxhrtat: w2 Whether R takes meds for heart attack	Categ
3	R3RXHRTAT	r3rxhrtat: w3 Whether R takes meds for heart attack	Categ
4	R4RXHRTAT	r4rxhrtat: w4 Whether R takes meds for heart attack	Categ
1	S1RXHRTAT	s1rxhrtat: w1 Whether S takes meds for heart attack	Categ
2	S2RXHRTAT	s2rxhrtat: w2 Whether S takes meds for heart attack	Categ
3	S3RXHRTAT	s3rxhrtat: w3 Whether S takes meds for heart attack	Categ
4	S4RXHRTAT	s4rxhrtat: w4 Whether S takes meds for heart attack	Categ
1	R1RXSTROK	r1rxstrok: w1 Whether R takes medication for stroke	Categ
2	R2RXSTROK	r2rxstrok: w2 Whether R takes medication for stroke	Categ
3	R3RXSTROK	r3rxstrok: w3 Whether R takes medication for stroke	Categ
4	R4RXSTROK	r4rxstrok: w4 Whether R takes medication for stroke	Categ
1	S1RXSTROK	s1rxstrok: w1 Whether S takes medication for stroke	Categ
2	S2RXSTROK	s2rxstrok: w2 Whether S takes medication for stroke	Categ
3	S3RXSTROK	s3rxstrok: w3 Whether S takes medication for stroke	Categ
4	S4RXSTROK	s4rxstrok: w4 Whether S takes medication for stroke	Categ
1	R1RXARTHR	r1rxarthr: w1 Whether R takes medication for arthritis	Categ
2	R2RXARTHR	r2rxarthr: w2 Whether R takes medication for arthritis	Categ
3	R3RXARTHR	r3rxarthr: w3 Whether R takes medication for arthritis	Categ
4	R4RXARTHR	r4rxarthr: w4 Whether R takes medication for arthritis	Categ
1	S1RXARTHR	s1rxarthr: w1 Whether S takes medication for arthritis	Categ
2	S2RXARTHR	s2rxarthr: w2 Whether S takes medication for arthritis	Categ
3	S3RXARTHR	s3rxarthr: w3 Whether S takes medication for arthritis	Categ
4	S4RXARTHR	s4rxarthr: w4 Whether S takes medication for arthritis	Categ

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RXHIBP	14678	0.27	0.44	0.00	1.00
R2RXHIBP	13651	0.28	0.45	0.00	1.00
R3RXHIBP	15682	0.37	0.48	0.00	1.00
R4RXHIBP	14754	0.41	0.49	0.00	1.00
S1RXHIBP	10284	0.25	0.43	0.00	1.00
S2RXHIBP	9528	0.27	0.44	0.00	1.00
S3RXHIBP	10569	0.35	0.48	0.00	1.00
S4RXHIBP	9640	0.38	0.49	0.00	1.00
R1RXDIABO	14713	0.13	0.34	0.00	1.00
R2RXDIABO	13649	0.14	0.35	0.00	1.00
R3RXDIABO	15688	0.20	0.40	0.00	1.00
R4RXDIABO	14758	0.22	0.42	0.00	1.00
S1RXDIABO	10309	0.13	0.34	0.00	1.00
S2RXDIABO	9524	0.14	0.35	0.00	1.00
S3RXDIABO	10577	0.20	0.40	0.00	1.00
S4RXDIABO	9642	0.22	0.42	0.00	1.00
R1RXDIABI	14709	0.02	0.13	0.00	1.00
R2RXDIABI	13646	0.02	0.14	0.00	1.00
R3RXDIABI	15687	0.04	0.19	0.00	1.00
R4RXDIABI	14758	0.05	0.22	0.00	1.00
S1RXDIABI	10306	0.01	0.12	0.00	1.00
S2RXDIABI	9521	0.02	0.14	0.00	1.00
S3RXDIABI	10576	0.04	0.19	0.00	1.00
S4RXDIABI	9642	0.05	0.22	0.00	1.00
R1RXDIAB	14713	0.13	0.34	0.00	1.00
R2RXDIAB	13649	0.14	0.35	0.00	1.00
R3RXDIAB	15688	0.21	0.40	0.00	1.00
R4RXDIAB	14758	0.23	0.42	0.00	1.00
S1RXDIAB	10309	0.13	0.34	0.00	1.00
S2RXDIAB	9524	0.14	0.35	0.00	1.00
S3RXDIAB	10577	0.21	0.40	0.00	1.00
S4RXDIAB	9642	0.23	0.42	0.00	1.00
R1CNCRCHEM	14724	0.00	0.07	0.00	1.00
R2CNCRCHEM	13669	0.00	0.06	0.00	1.00
R3CNCRCHEM	15696	0.01	0.08	0.00	1.00
R4CNCRCHEM	14763	0.01	0.08	0.00	1.00
S1CNCRCHEM	10314	0.00	0.07	0.00	1.00
S2CNCRCHEM	9537	0.00	0.06	0.00	1.00
S3CNCRCHEM	10579	0.01	0.07	0.00	1.00
S4CNCRCHEM	9643	0.01	0.09	0.00	1.00
R1CNCRSURG	14724	0.01	0.09	0.00	1.00
R2CNCRSURG	13669	0.00	0.05	0.00	1.00
R3CNCRSURG	15696	0.01	0.07	0.00	1.00
R4CNCRSURG	14763	0.00	0.07	0.00	1.00
S1CNCRSURG	10314	0.01	0.09	0.00	1.00
S2CNCRSURG	9537	0.00	0.05	0.00	1.00
S3CNCRSURG	10579	0.01	0.07	0.00	1.00
S4CNCRSURG	9643	0.01	0.07	0.00	1.00
R1CNCRRADN	14724	0.00	0.06	0.00	1.00
R2CNCRRADN	13669	0.00	0.05	0.00	1.00
R3CNCRRADN	15696	0.00	0.05	0.00	1.00
R4CNCRRADN	14763	0.00	0.06	0.00	1.00
S1CNCRRADN	10314	0.00	0.06	0.00	1.00
S2CNCRRADN	9537	0.00	0.05	0.00	1.00

Section B: Health

S3CNCRRADN	10579	0.00	0.05	0.00	1.00
S4CNCRRADN	9643	0.00	0.06	0.00	1.00
R1CNCRMEDS	14724	0.01	0.07	0.00	1.00
R2CNCRMEDS	13669	0.00	0.05	0.00	1.00
R3CNCRMEDS	15696	0.00	0.07	0.00	1.00
R4CNCRMEDS	14763	0.01	0.09	0.00	1.00
S1CNCRMEDS	10314	0.01	0.07	0.00	1.00
S2CNCRMEDS	9537	0.00	0.05	0.00	1.00
S3CNCRMEDS	10579	0.00	0.07	0.00	1.00
S4CNCRMEDS	9643	0.01	0.08	0.00	1.00
R1CNCROTHR	14724	0.00	0.04	0.00	1.00
R2CNCROTHR	13669	0.00	0.02	0.00	1.00
R3CNCROTHR	15696	0.00	0.03	0.00	1.00
R4CNCROTHR	14763	0.00	0.04	0.00	1.00
S1CNCROTHR	10314	0.00	0.04	0.00	1.00
S2CNCROTHR	9537	0.00	0.02	0.00	1.00
S3CNCROTHR	10579	0.00	0.03	0.00	1.00
S4CNCROTHR	9643	0.00	0.04	0.00	1.00
R1RXLUNG_M	14735	0.03	0.17	0.00	1.00
R2RXLUNG_M	13666	0.03	0.16	0.00	1.00
R3RXLUNG_M	15694	0.04	0.19	0.00	1.00
R4RXLUNG_M	14767	0.04	0.19	0.00	1.00
S1RXLUNG_M	10325	0.03	0.16	0.00	1.00
S2RXLUNG_M	9538	0.02	0.16	0.00	1.00
S3RXLUNG_M	10579	0.03	0.18	0.00	1.00
S4RXLUNG_M	9646	0.03	0.18	0.00	1.00
R1RXHRTAT	14727	0.02	0.15	0.00	1.00
R2RXHRTAT	13683	0.02	0.13	0.00	1.00
R3RXHRTAT	15698	0.03	0.16	0.00	1.00
R4RXHRTAT	14765	0.03	0.16	0.00	1.00
S1RXHRTAT	10322	0.02	0.15	0.00	1.00
S2RXHRTAT	9550	0.02	0.13	0.00	1.00
S3RXHRTAT	10578	0.03	0.16	0.00	1.00
S4RXHRTAT	9645	0.03	0.16	0.00	1.00
R1RXSTROK	14728	0.01	0.11	0.00	1.00
R2RXSTROK	13695	0.01	0.09	0.00	1.00
R3RXSTROK	15706	0.01	0.11	0.00	1.00
R4RXSTROK	14761	0.01	0.11	0.00	1.00
S1RXSTROK	10322	0.01	0.11	0.00	1.00
S2RXSTROK	9558	0.01	0.09	0.00	1.00
S3RXSTROK	10584	0.01	0.11	0.00	1.00
S4RXSTROK	9643	0.01	0.10	0.00	1.00
R1RXARTHR	14712	0.11	0.32	0.00	1.00
R2RXARTHR	13681	0.11	0.32	0.00	1.00
R3RXARTHR	15690	0.08	0.28	0.00	1.00
R4RXARTHR	14755	0.09	0.29	0.00	1.00
S1RXARTHR	10308	0.10	0.30	0.00	1.00
S2RXARTHR	9550	0.10	0.30	0.00	1.00
S3RXARTHR	10571	0.07	0.26	0.00	1.00
S4RXARTHR	9637	0.08	0.27	0.00	1.00

Categorical Variable Codes

Value-----	R1RXHIBP	R2RXHIBP	R3RXHIBP	R4RXHIBP
.d:DK	57	53	37	22
.m:Missing	4			

.r:Refuse	52		4	3
.s:Skip	395			
0.no	10751	9791	9915	8765
1.yes	3927	3860	5767	5989
Value-----	S1RXHIBP	S2RXHIBP	S3RXHIBP	S4RXHIBP
.d:DK	39	36	21	11
.m:Missing	3			
.r:Refuse	39		2	1
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	7739	6967	6920	5967
1.yes	2545	2561	3649	3673
Value-----	R1RXDIABO	R2RXDIABO	R3RXDIABO	R4RXDIABO
.d:DK	39	53	30	17
.m:Missing	4			
.r:Refuse	35	2	5	4
.s:Skip	395			
0.no	12794	11729	12495	11474
1.yes	1919	1920	3193	3284
Value-----	S1RXDIABO	S2RXDIABO	S3RXDIABO	S4RXDIABO
.d:DK	28	39	13	8
.m:Missing	3			
.r:Refuse	25	1	2	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	8960	8176	8435	7491
1.yes	1349	1348	2142	2151
Value-----	R1RXDIABI	R2RXDIABI	R3RXDIABI	R4RXDIABI
.d:DK	41	55	30	17
.m:Missing	4			
.r:Refuse	37	3	6	4
.s:Skip	395			
0.no	14475	13362	15102	13993
1.yes	234	284	585	765
Value-----	S1RXDIABI	S2RXDIABI	S3RXDIABI	S4RXDIABI
.d:DK	29	41	14	8
.m:Missing	3			
.r:Refuse	27	2	2	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10152	9330	10195	9144
1.yes	154	191	381	498
Value-----	R1RXDIAB	R2RXDIAB	R3RXDIAB	R4RXDIAB
.d:DK	39	53	30	17
.m:Missing	4			
.r:Refuse	35	2	5	4
.s:Skip	395			
0.no	12768	11694	12445	11391
1.yes	1945	1955	3243	3367
Value-----	S1RXDIAB	S2RXDIAB	S3RXDIAB	S4RXDIAB
.d:DK	28	39	13	8
.m:Missing	3			
.r:Refuse	25	1	2	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	8944	8153	8405	7436
1.yes	1365	1371	2172	2206
Value-----	R1CNCRCHEM	R2CNCRCHEM	R3CNCRCHEM	R4CNCRCHEM
.d:DK	28	35	22	14
.m:Missing	4			
.r:Refuse	35		5	2
.s:Skip	395			
0.no	14657	13627	15598	14656
1.yes	67	42	98	107
Value-----	S1CNCRCHEM	S2CNCRCHEM	S3CNCRCHEM	S4CNCRCHEM

.d:DK	23	27	10	9
.m:Missing	3			
.r:Refuse	25		3	
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10267	9507	10521	9568
1.yes	47	30	58	75
Value-----	R1CNCRSURG	R2CNCRSURG	R3CNCRSURG	R4CNCRSURG
.d:DK	28	35	22	14
.m:Missing	4			
.r:Refuse	35		5	2
.s:Skip	395			
0.no	14613	13637	15613	14691
1.yes	111	32	83	72
Value-----	S1CNCRSURG	S2CNCRSURG	S3CNCRSURG	S4CNCRSURG
.d:DK	23	27	10	9
.m:Missing	3			
.r:Refuse	25		3	
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10231	9513	10526	9592
1.yes	83	24	53	51
Value-----	R1CNCRRADN	R2CNCRRADN	R3CNCRRADN	R4CNCRRADN
.d:DK	28	35	22	14
.m:Missing	4			
.r:Refuse	35		5	2
.s:Skip	395			
0.no	14663	13635	15652	14709
1.yes	61	34	44	54
Value-----	S1CNCRRADN	S2CNCRRADN	S3CNCRRADN	S4CNCRRADN
.d:DK	23	27	10	9
.m:Missing	3			
.r:Refuse	25		3	
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10271	9514	10552	9603
1.yes	43	23	27	40
Value-----	R1CNCRMEDS	R2CNCRMEDS	R3CNCRMEDS	R4CNCRMEDS
.d:DK	28	35	22	14
.m:Missing	4			
.r:Refuse	35		5	2
.s:Skip	395			
0.no	14646	13630	15624	14653
1.yes	78	39	72	110
Value-----	S1CNCRMEDS	S2CNCRMEDS	S3CNCRMEDS	S4CNCRMEDS
.d:DK	23	27	10	9
.m:Missing	3			
.r:Refuse	25		3	
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10257	9513	10530	9573
1.yes	57	24	49	70
Value-----	R1CNCROTHR	R2CNCROTHR	R3CNCROTHR	R4CNCROTHR
.d:DK	28	35	22	14
.m:Missing	4			
.r:Refuse	35		5	2
.s:Skip	395			
0.no	14703	13663	15677	14741
1.yes	21	6	19	22
Value-----	S1CNCROTHR	S2CNCROTHR	S3CNCROTHR	S4CNCROTHR
.d:DK	23	27	10	9
.m:Missing	3			
.r:Refuse	25		3	
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280

0.no	10299	9533	10569	9628
1.yes	15	4	10	15
Value-----	R1RXLUNG_M	R2RXLUNG_M	R3RXLUNG_M	R4RXLUNG_M
.d:DK	16	35	25	8
.m:Missing	4			
.r:Refuse	36	3	4	4
.s:Skip	395			
0.no	14310	13285	15130	14234
1.yes	425	381	564	533
Value-----	S1RXLUNG_M	S2RXLUNG_M	S3RXLUNG_M	S4RXLUNG_M
.d:DK	10	25	11	3
.m:Missing	3			
.r:Refuse	27	1	2	3
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10048	9302	10232	9327
1.yes	277	236	347	319
Value-----	R1RXHRTAT	R2RXHRTAT	R3RXHRTAT	R4RXHRTAT
.d:DK	24	18	18	11
.m:Missing	4			1
.r:Refuse	36	3	7	2
.s:Skip	395			
0.no	14391	13437	15285	14382
1.yes	336	246	413	383
Value-----	S1RXHRTAT	S2RXHRTAT	S3RXHRTAT	S4RXHRTAT
.d:DK	15	11	8	5
.m:Missing	3			
.r:Refuse	25	3	6	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10078	9378	10298	9384
1.yes	244	172	280	261
Value-----	R1RXSTROK	R2RXSTROK	R3RXSTROK	R4RXSTROK
.d:DK	20	8	13	13
.m:Missing	4			1
.r:Refuse	39	1	4	4
.s:Skip	395			
0.no	14534	13577	15506	14594
1.yes	194	118	200	167
Value-----	S1RXSTROK	S2RXSTROK	S3RXSTROK	S4RXSTROK
.d:DK	13	5	5	7
.m:Missing	3			
.r:Refuse	27	1	3	2
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10189	9485	10452	9541
1.yes	133	73	132	102
Value-----	R1RXARTHR	R2RXARTHR	R3RXARTHR	R4RXARTHR
.d:DK	37	23	28	17
.m:Missing	4			1
.r:Refuse	38		5	6
.s:Skip	395			
0.no	13047	12122	14362	13410
1.yes	1665	1559	1328	1345
Value-----	S1RXARTHR	S2RXARTHR	S3RXARTHR	S4RXARTHR
.d:DK	28	14	17	11
.m:Missing	3			
.r:Refuse	26		4	4
.s:Skip	283			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	9315	8592	9802	8890
1.yes	993	958	769	747

## How Constructed

RwRXHIBP, RwRXDIABO, RwRXDIABI, RwRXDIAB, RwcNCRCHEM, RwcNCRSURG, RwcNCRRADN, RwcNCRMEDS, RwcNCRROTHR, RwRXLUNG\_M, RwRXHRTAT, RwRXSTROK, and RwRXARTHR indicate whether the respondent takes medication or receives treatment for a condition. These variables are coded as 1.Yes and 0.No if the respondent doesn't take said medication or if the respondent did not report having the condition. When respondents "don't know" or refuse to answer, RwRXHIBP, RwRXDIABO, RwRXDIABI, RwRXDIAB, RwcNCRCHEM, RwcNCRSURG, RwcNCRRADN, RwcNCRMEDS, RwcNCRROTHR, RwRXLUNG\_M, RwRXHRTAT, RwRXSTROK, and RwRXARTHR are assigned special missing values .d or .r, respectively. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

RwRXHIBP indicates whether the respondent takes medication for hypertension or high blood pressure, and is coded as 0.No if the respondent did not report taking medication for or having high blood pressure or hypertension. The respondent is asked about taking medication to lower the blood pressure after reporting a hypertension or high blood pressure diagnosis.

RwRXDIABO indicates whether the respondent takes oral medication for diabetes, RwRXDIABI indicates whether the respondent uses insulin shots for diabetes, and RwRXDIAB indicates whether the respondent uses any medication (oral medication or insulin shots) for diabetes. They are coded as 0 "No" if the respondent did not report taking medication for or having diabetes. The respondent is asked about taking medication for diabetes after reporting a diabetes diagnosis.

If the respondent has been diagnosed with cancer, the respondent is presented with a list of cancer treatments and asked which treatment(s) they have received. RwcNCRCHEM indicates whether the respondent receives chemotherapy or medication for the treatment of cancer. RwcNCRSURG indicates whether the respondent had surgery or biopsy for the treatment of cancer. RwcNCRRADN indicates whether the respondent had radiation or x-ray for the treatment of cancer. RwcNCRMEDS indicates whether the respondent receives medications or treatment for symptoms (pain, nausea, rashes) for the treatment of cancer. RwcNCRROTHR indicates whether the respondent had another unspecified type of treatment for cancer. If the respondent has been diagnosed with cancer but has not been treated for cancer, RwcNCRCHEM, RwcNCRSURG, RwcNCRRADN, RwcNCRMEDS, and RwcNCRROTHR are set to 0. RwcNCRCHEM, RwcNCRSURG, RwcNCRRADN, RwcNCRMEDS, and RwcNCRROTHR are coded as 0 "No" if the respondent has never been diagnosed with cancer.

RwRXLUNG\_M indicates whether the respondent takes medication for a respiratory illness, such as asthma or emphysema, and is coded as 0 "No" if the respondent did not report taking medication for or having chronic respiratory illness. The respondent is asked about taking medication for lung disease after reporting a respiratory illness, such as asthma or emphysema.

RwRXHRTAT indicates whether the respondent takes medication for a heart attack, and is coded as 0 "No" if the respondent did not report taking medication for or having had a heart attack. The respondent is asked about taking medication for heart condition after reporting having had a heart attack.

RwRXSTROK indicates whether the respondent takes medication for stroke, and is coded as 0 "No" if the respondent did not report taking medication for or having a stroke. The respondent is asked about taking medication for stroke after reporting a stroke.

RwRXARTHR indicates whether the respondent takes medication for arthritis, and is coded as 0 "No" if the respondent did not report taking medication for or having arthritis or rheumatism. The respondent is asked about taking medication after reporting a diagnosis of arthritis or rheumatism.

SwRXHIBP, SwRXDIABO, SwRXDIABI, SwRXDIAB, SwCNCRCHEM, SwCNCRSURG, SwCNCRRADN, SwCNCRMEDS, SwCNCROTHR, SwRXLUNG\_M, SwRXHRTAT, SwRXSTROK, and SwRXARTHR indicate whether the respondent's current wave's spouse takes medication or receives treatment for the specified condition, and are taken from corresponding respondent variables. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

**MHAS Variables Used**

## Wave 1:

C12 cancer or tumor  
 C16A chemotherapy  
 C16B surgery or biopsy  
 C16C radiation  
 C16D medication for cancer  
 C16E other treatment for cancer  
 C19 respiratory illness  
 C20 medication for respiratory illness  
 C22 heart attack  
 C24 medication for heart attack  
 C27 stroke  
 C30 medication for stroke  
 C34 arthritis or rheumatism  
 C37 medication for arthritis  
 C4 hypertension  
 C5 medication for blood pressure  
 C6 diabetes  
 C7 medication for diabetes  
 C8 insulin use

## Wave 2:

C12 doctor ever say you have cancer  
 C16\_1 cancer treatments received since 2001  
 C16\_2 cancer treatments received since 2001  
 C16\_3 cancer treatments received since 2001  
 C16\_4 cancer treatments received since 2001  
 C16\_5 cancer treatments received since 2001  
 C19 doctor ever say you have a respiratory disease  
 C20 taking medicine to control respiratory disease  
 C22A doctor ever say you had a heart attack  
 C23 taking medicine to control heart disease  
 C26 doctor ever say you had a stroke  
 C28 taking medicine due to stroke  
 C32 doctor ever say you have arthritis  
 C34 taking medication/treatments  
 C4 doctor ever say you have hypertension  
 C5 take medicine to lower blood pressure  
 C6 doctor ever say you have diabetes  
 C7 taking oral medicine to control diabetes  
 C8 taking injections or using an insulin pump

## Wave 3:

C12\_12 Has a physician diagnosed respondent...cancer  
 C16\_1\_12 Last 2 years:Type of cancer treatment respondent receive  
 C16\_2\_12 Last 2 years:Type of cancer treatment respondent receive  
 C16\_3\_12 Last 2 years:Type of cancer treatment respondent receive  
 C16\_4\_12 Last 2 years:Type of cancer treatment respondent receive  
 C16\_5\_12 Last 2 years:Type of cancer treatment respondent receive  
 C16\_7\_12 Last 2 years:Type of cancer treatment respondent receive  
 C19\_12 Has a physician diagnosed respondent...respiratory illness  
 C20A\_12 Does respondent take medication/treatment for respiratory  
 C22A\_12 Has a physician ever told respondent...heart attack  
 C23\_12 Respondent takes medication for heart condition  
 C26\_12 Ever/last 2 years:Has a physician told respondent...stroke  
 C28\_12 Respondent takes medication for stroke  
 C32\_12 Has a physician diagnosed respondent with arthritis/rheumatism  
 C34\_12 Respondent takes medication for arthritis/rheumatism  
 C4\_12 Has a physician diagnosed...hypertension/high blood pressure  
 C5\_12 Does respondent take medication to lower his/her blood pressure  
 C6\_12 Has a physician diagnosed respondent...diabetes  
 C7\_12 Does respondent take medication to control his/her diabetes  
 C8\_12 Does the respondent use insulin

## Wave 4:

C12\_15 Has a doctor or medical personnel ever diagnosed respondent  
 C16\_1\_15 Last 2 years, type of cancer treatment received: Chemotherapy  
 C16\_2\_15 Last 2 years, type of cancer treatment received: Surgery  
 C16\_3\_15 Last 2 years, type of cancer treatment received: Radiation  
 C16\_4\_15 Last 2 years, type of cancer treatment received: Medication



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C16_5_15	Last 2 years, type of cancer treatment received: None
C16_7_15	Last 2 years, type of cancer treatment received: Other
C19_15	Has a doctor or medical personnel ever diagnosed respon
C20A_15	Does respondent take medication/treatment for his/her r
C22A_15	Has a doctor or medical personnel ever told respondent
C23_15	Does respondent take medication for his/her heart condi
C26_15	Has a doctor or medical personnel ever told respondent
C28_15	Does respondent take medication for stroke
C32_15	Has a doctor or medical personnel ever diagnosed respon
C34_15	Does respondent take medication for arthritis/rheumatis
C4_15	Has a doctor or medical personnel ever diagnosed respon
C5_15	Does respondent take medication to lower his/her blood
C6_15	Has a doctor or medical personnel ever diagnosed respon
C7_15	Does respondent take medication to control his/her diab
C8_15	Does respondent use insulin shots

<b>Doctor Diagnosed Diseases: Whether Disease Limits Activity</b>
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Wave	Variable	Label	Type
1	R1LUNGLMT_M	r1lunglmt_m: w1 Whether lung problems limits R's daily activ	Categ
2	R2LUNGLMT_M	r2lunglmt_m: w2 Whether lung problems limits R's daily activ	Categ
3	R3LUNGLMT_M	r3lunglmt_m: w3 Whether lung problems limits R's daily activ	Categ
4	R4LUNGLMT_M	r4lunglmt_m: w4 Whether lung problems limits R's daily activ	Categ
1	S1LUNGLMT_M	s1lunglmt_m: w1 Whether lung problems limits S's daily activ	Categ
2	S2LUNGLMT_M	s2lunglmt_m: w2 Whether lung problems limits S's daily activ	Categ
3	S3LUNGLMT_M	s3lunglmt_m: w3 Whether lung problems limits S's daily activ	Categ
4	S4LUNGLMT_M	s4lunglmt_m: w4 Whether lung problems limits S's daily activ	Categ
1	R1HRTATLMT	r1hrtatlm: w1 Whether heart attack limits R's daily activit	Categ
2	R2HRTATLMT	r2hrtatlm: w2 Whether heart attack limits R's daily activit	Categ
3	R3HRTATLMT	r3hrtatlm: w3 Whether heart attack limits R's daily activit	Categ
4	R4HRTATLMT	r4hrtatlm: w4 Whether heart attack limits R's daily activit	Categ
1	S1HRTATLMT	s1hrtatlm: w1 Whether heart attack limits S's daily activit	Categ
2	S2HRTATLMT	s2hrtatlm: w2 Whether heart attack limits S's daily activit	Categ
3	S3HRTATLMT	s3hrtatlm: w3 Whether heart attack limits S's daily activit	Categ
4	S4HRTATLMT	s4hrtatlm: w4 Whether heart attack limits S's daily activit	Categ
1	R1STROKLMT	r1stroklmt: w1 Whether stroke limits R's daily activities	Categ
2	R2STROKLMT	r2stroklmt: w2 Whether stroke limits R's daily activities	Categ
3	R3STROKLMT	r3stroklmt: w3 Whether stroke limits R's daily activities	Categ
4	R4STROKLMT	r4stroklmt: w4 Whether stroke limits R's daily activities	Categ
1	S1STROKLMT	s1stroklmt: w1 Whether stroke limits S's daily activities	Categ
2	S2STROKLMT	s2stroklmt: w2 Whether stroke limits S's daily activities	Categ
3	S3STROKLMT	s3stroklmt: w3 Whether stroke limits S's daily activities	Categ
4	S4STROKLMT	s4stroklmt: w4 Whether stroke limits S's daily activities	Categ
1	R1ARTHLMT	r1arthlmt: w1 Whether arthritis limits R's daily activities	Categ
2	R2ARTHLMT	r2arthlmt: w2 Whether arthritis limits R's daily activities	Categ
3	R3ARTHLMT	r3arthlmt: w3 Whether arthritis limits R's daily activities	Categ
4	R4ARTHLMT	r4arthlmt: w4 Whether arthritis limits R's daily activities	Categ
1	S1ARTHLMT	s1arthlmt: w1 Whether arthritis limits S's daily activities	Categ
2	S2ARTHLMT	s2arthlmt: w2 Whether arthritis limits S's daily activities	Categ
3	S3ARTHLMT	s3arthlmt: w3 Whether arthritis limits S's daily activities	Categ
4	S4ARTHLMT	s4arthlmt: w4 Whether arthritis limits S's daily activities	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LUNGLMT_M	830	0.44	0.50	0.00	1.00
R2LUNGLMT_M	551	0.59	0.49	0.00	1.00
R3LUNGLMT_M	842	0.41	0.49	0.00	1.00
R4LUNGLMT_M	847	0.37	0.48	0.00	1.00
S1LUNGLMT_M	558	0.44	0.50	0.00	1.00
S2LUNGLMT_M	351	0.58	0.49	0.00	1.00
S3LUNGLMT_M	545	0.41	0.49	0.00	1.00
S4LUNGLMT_M	532	0.37	0.48	0.00	1.00
R1HRTATLMT	439	0.55	0.50	0.00	1.00
R2HRTATLMT	274	0.57	0.50	0.00	1.00
R3HRTATLMT	503	0.44	0.50	0.00	1.00
R4HRTATLMT	519	0.41	0.49	0.00	1.00
S1HRTATLMT	314	0.60	0.49	0.00	1.00
S2HRTATLMT	195	0.58	0.49	0.00	1.00
S3HRTATLMT	351	0.44	0.50	0.00	1.00
S4HRTATLMT	361	0.42	0.49	0.00	1.00

R1STROKLMT	324	0.52	0.50	0.00	1.00
R2STROKLMT	125	0.66	0.47	0.00	1.00
R3STROKLMT	283	0.53	0.50	0.00	1.00
R4STROKLMT	270	0.46	0.50	0.00	1.00
S1STROKLMT	211	0.54	0.50	0.00	1.00
S2STROKLMT	80	0.69	0.47	0.00	1.00
S3STROKLMT	192	0.55	0.50	0.00	1.00
S4STROKLMT	168	0.48	0.50	0.00	1.00
R1ARTHLMT	2685	0.50	0.50	0.00	1.00
R2ARTHLMT	2237	0.53	0.50	0.00	1.00
R3ARTHLMT	1945	0.52	0.50	0.00	1.00
R4ARTHLMT	2067	0.51	0.50	0.00	1.00
S1ARTHLMT	1676	0.48	0.50	0.00	1.00
S2ARTHLMT	1412	0.52	0.50	0.00	1.00
S3ARTHLMT	1189	0.52	0.50	0.00	1.00
S4ARTHLMT	1233	0.51	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1LUNGLMT_M	R2LUNGLMT_M	R3LUNGLMT_M	R4LUNGLMT_M
.d:DK	17	32	23	2
.m:Missing	4			
.p:Proxy interview, not asked	119	69	80	86
.r:Refuse	34	2	4	4
.s:Skip	354			
.x:does not have condition	13828	13050	14774	13840
0.no	464	227	496	531
1.yes	366	324	346	316

Value-----	S1LUNGLMT_M	S2LUNGLMT_M	S3LUNGLMT_M	S4LUNGLMT_M
.d:DK	10	22	11	2
.m:Missing	3			
.p:Proxy interview, not asked	72	46	36	35
.r:Refuse	24	1	3	3
.s:Skip	254			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have condition	9727	9144	9997	9080
0.no	310	148	319	335
1.yes	248	203	226	197

Value-----	R1HRTATLMT	R2HRTATLMT	R3HRTATLMT	R4HRTATLMT
.d:DK	16	14	14	4
.m:Missing	4			1
.p:Proxy interview, not asked	105	36	71	65
.r:Refuse	29	2	7	2
.s:Skip	354			
.x:does not have condition	14239	13378	15128	14188
0.no	196	117	282	306
1.yes	243	157	221	213

Value-----	S1HRTATLMT	S2HRTATLMT	S3HRTATLMT	S4HRTATLMT
.d:DK	13	9	7	3
.m:Missing	3			
.p:Proxy interview, not asked	61	25	40	29
.r:Refuse	21	2	6	2
.s:Skip	254			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have condition	9982	9333	10188	9257
0.no	126	82	196	209
1.yes	188	113	155	152

Value-----	R1STROKLMT	R2STROKLMT	R3STROKLMT	R4STROKLMT
.d:DK	18	6	12	8
.m:Missing	4			1
.p:Proxy interview, not asked	111	49	87	88
.r:Refuse	36	1	4	4
.s:Skip	354			
.x:does not have condition	14339	13523	15337	14408

0.no	156	42	132	146
1.yes	168	83	151	124
Value-----	S1STROKLMT	S2STROKLMT	S3STROKLMT	S4STROKLMT
.d:DK	13	4	5	5
.m:Missing	3			
.p:Proxy interview, not asked	63	31	36	35
.r:Refuse	25	1	3	2
.s:Skip	254			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have condition	10079	9448	10356	9442
0.no	97	25	87	87
1.yes	114	55	105	81
Value-----	R1ARTHLMT	R2ARTHLMT	R3ARTHLMT	R4ARTHLMT
.d:DK	34	21	26	12
.m:Missing	4			1
.p:Proxy interview, not asked	225	186	183	168
.r:Refuse	38		4	6
.s:Skip	354			
.x:does not have condition	11846	11260	13565	12525
0.no	1355	1056	931	1006
1.yes	1330	1181	1014	1061
Value-----	S1ARTHLMT	S2ARTHLMT	S3ARTHLMT	S4ARTHLMT
.d:DK	26	13	16	10
.m:Missing	3			
.p:Proxy interview, not asked	117	107	72	59
.r:Refuse	27		4	4
.s:Skip	254			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have condition	8545	8032	9311	8346
0.no	867	677	572	610
1.yes	809	735	617	623

## How Constructed

RwLUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarthLMT indicate whether a specified health condition limits the daily activity (such as household chores or job) of the respondent. RwlunGLMT\_M indicates whether a respiratory illness, such as asthma or emphysema, limits the daily activities of the respondent. RwhRTATLMT indicates whether a heart attack limits the daily activities of the respondent. RwSTROKLMT indicates whether a stroke limits the daily activities of the respondent. RwarthLMT indicates whether arthritis limits the daily activities of the respondent.

RwLUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarthLMT are coded as 0 "No" and 1 "Yes". Respondents who have never been diagnosed with the specified condition are not asked these questions and these variables are assigned a special missing code .x. RwlunGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarthLMT are assigned special missing code .d, .r, .p, .m, for don't know, refused, proxy, or otherwise missing responses, respectively. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwLUNGLMT\_M, SwHRTATLMT, SwSTROKLMT, and SwARTHLMT indicate whether the respondent's spouse reported that a specified health condition limits their daily activity and are taken directly from the spouse's RwlunGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarthLMT, respectively. In addition to the special missing codes used in RwlunGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarthLMT; SwLUNGLMT\_M, SwHRTATLMT, SwSTROKLMT, and SwARTHLMT employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Different to the HRS, in all waves of the MHAS, respondents are asked whether the conditions limits their daily activity including household chores and job. Specifically, the original HRS question refers explicitly to limitations in "paid work activities", whereas the original MHAS question refers to limitations in "daily activities such as household chores or your job".

**MHAS Variables Used**

## Wave 1:

C19 respiratory illness  
C21 respiratory treatment limits activities  
C22 heart attack  
C26 heart problems limits activities  
C27 stroke  
C33 stroke limits activities  
C34 arthritis or rheumatism  
C38 arthritis limits activities

## Wave 2:

C19 doctor ever say you have a respiratory disease  
C21 condition limits normal activities  
C22A doctor ever say you had a heart attack  
C25 heart condition limits normal activities  
C26 doctor ever say you had a stroke  
C31 condition limits your normal activities  
C32 doctor ever say you have arthritis  
C35 condition limits your normal activities

## Wave 3:

C19\_12 Has a physician diagnosed respondent...respiratory illness  
C21\_12 Respondent's health condition limits daily activities  
C22A\_12 Has a physician ever told respondent...heart attack  
C25A\_12 Respondent's heart condition limits daily activities  
C26\_12 Ever/last 2 years:Has a physician told respondent...stroke  
C31\_12 Stroke limits respondent's daily activities  
C32\_12 Has a physician diagnosed respondent with arthritis/rheumatism  
C35\_12 Arthritis limits respondent's daily activities

## Wave 4:

C19\_15 Has a doctor or medical personnel ever diagnosed respondent  
C21\_15 Does respondent's health condition limit his/her daily activities  
C22A\_15 Has a doctor or medical personnel ever told respondent  
C25A\_15 Does respondent's heart condition limit daily activities  
C26\_15 Has a doctor or medical personnel ever told respondent  
C31\_15 Stroke limits respondent's daily activities  
C32\_15 Has a doctor or medical personnel ever diagnosed respondent  
C35\_15 Does arthritis limit respondent's daily activities

<b>Doctor Diagnosed Diseases: Age of Diagnosis</b>
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Wave	Variable	Label	Type
1	R1RECCANCR	r1reccancr: w1 R Age most recent cancer diagnosis	Cont
2	R2RECCANCR	r2reccancr: w2 R Age most recent cancer diagnosis	Cont
3	R3RECCANCR	r3reccancr: w3 R Age most recent cancer diagnosis	Cont
4	R4RECCANCR	r4reccancr: w4 R Age most recent cancer diagnosis	Cont
1	S1RECCANCR	s1reccancr: w1 S Age most recent cancer diagnosis	Cont
2	S2RECCANCR	s2reccancr: w2 S Age most recent cancer diagnosis	Cont
3	S3RECCANCR	s3reccancr: w3 S Age most recent cancer diagnosis	Cont
4	S4RECCANCR	s4reccancr: w4 S Age most recent cancer diagnosis	Cont
1	R1RECHRTATT	r1rechrtatt: w1 R Age most recent heart attack	Cont
2	R2RECHRTATT	r2rechrtatt: w2 R Age most recent heart attack	Cont
3	R3RECHRTATT	r3rechrtatt: w3 R Age most recent heart attack	Cont
4	R4RECHRTATT	r4rechrtatt: w4 R Age most recent heart attack	Cont
1	S1RECHRTATT	s1rechrtatt: w1 S Age most recent heart attack	Cont
2	S2RECHRTATT	s2rechrtatt: w2 S Age most recent heart attack	Cont
3	S3RECHRTATT	s3rechrtatt: w3 S Age most recent heart attack	Cont
4	S4RECHRTATT	s4rechrtatt: w4 S Age most recent heart attack	Cont
1	R1RECSTROK	r1recstrok: w1 R Age most recent stroke	Cont
2	R2RECSTROK	r2recstrok: w2 R Age most recent stroke	Cont
3	R3RECSTROK	r3recstrok: w3 R Age most recent stroke	Cont
4	R4RECSTROK	r4recstrok: w4 R Age most recent stroke	Cont
1	S1RECSTROK	s1recstrok: w1 S Age most recent stroke	Cont
2	S2RECSTROK	s2recstrok: w2 S Age most recent stroke	Cont
3	S3RECSTROK	s3recstrok: w3 S Age most recent stroke	Cont
4	S4RECSTROK	s4recstrok: w4 S Age most recent stroke	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RECCANCR	287	52.12	13.67	6.00	90.00
R2RECCANCR	303	53.67	14.23	6.00	89.00
R3RECCANCR	467	54.85	14.63	2.00	93.00
R4RECCANCR	570	55.88	14.90	2.00	89.00
S1RECCANCR	199	49.71	12.88	6.00	84.00
S2RECCANCR	203	52.04	13.67	9.00	89.00
S3RECCANCR	298	54.37	13.87	9.00	88.00
S4RECCANCR	365	55.04	14.51	5.00	88.00
R1RECHRTATT	468	56.51	15.21	3.00	106.00
R2RECHRTATT	607	58.56	14.23	5.00	92.00
R3RECHRTATT	790	59.00	13.60	1.00	98.00
R4RECHRTATT	953	59.65	14.10	1.00	93.00
S1RECHRTATT	328	54.70	14.03	3.00	87.00
S2RECHRTATT	427	57.26	13.54	5.00	92.00
S3RECHRTATT	505	57.62	12.89	1.00	88.00
S4RECHRTATT	607	58.09	13.26	1.00	93.00
R1RECSTROK	382	58.31	14.44	5.00	98.00
R2RECSTROK	420	59.75	14.28	5.00	95.00
R3RECSTROK	518	59.73	14.24	0.00	94.00
R4RECSTROK	606	60.51	14.90	0.00	105.00
S1RECSTROK	239	56.26	13.18	6.00	87.00
S2RECSTROK	260	57.41	13.63	6.00	87.00
S3RECSTROK	305	58.02	13.33	19.00	94.00
S4RECSTROK	343	57.54	14.13	11.00	89.00

## How Constructed

RwRECCANCR indicates the most recent age at which the respondent was diagnosed with cancer. In waves 1 and 2, respondents are asked the year or age in which they were diagnosed, and these responses are converted to the year of diagnosis in the MHAS data. Starting in wave 3, both year and/or age responses are recorded in the MHAS data. RwRECCANCR is then constructed using the reported year or age reported. Previous responses are carried forward if the respondent does not report a new cancer diagnosis. Respondents who have never been diagnosed with cancer are not asked this question and are assigned a special missing code .x. RwRECCANCR is also assigned a special missing value .i if the year reported was invalid. Don't know, refused, or other missing responses of RwRECCANCR are assigned special missing codes .d, .r, and .m, respectively. RwRECCANCR is set to plain missing (.) for respondents who did not participate in the current wave.

SwRECCANCR indicates the most recent age at which the respondent's current wave's spouse was diagnosed with cancer, and is taken from RwRECCANCR. In addition to the special missing codes employed by RwRECCANCR, SwRECCANCR employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwRECHRTATT indicates the most recent age at which the respondent had a heart attack. In waves 1 and 2, respondents are asked the year or age in which they were diagnosed, and these responses are converted to the year of diagnosis in the MHAS data. Starting in wave 3, both year and/or age responses are recorded in the MHAS data. RwRECHRTATT is then constructed using first the reported year or age reported. Previous responses are carried forward if the respondent did not report a new heart attack. Respondents who have never had a heart attack are not asked this question and are assigned a special missing code .x. RwRECHRTATT is also assigned a special missing value .i if the year reported was invalid. Don't know, refused, or other missing responses of RwRECHRTATT are assigned special missing codes .d, .r, and .m, respectively. RwRECHRTATT is set to plain missing (.) for respondents who did not participate in the current wave.

SwRECHRTATT indicates the most recent age at which the respondent's current wave's spouse had a heart attack, and is taken from RwRECHRTATT. In addition to the special missing codes employed by RwRECHRTATT, SwRECHRTATT employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwRECSTROK indicates the most recent age at which the respondent had a stroke. In waves 1 and 2, respondents are asked the year or age in which they were diagnosed, and these responses are converted to the year at diagnosis in the MHAS data. Starting in wave 3, both year and/or age responses are recorded in the MHAS data. RwRECSTROK is then constructed using the first reported year or age reported. Previous responses are carried forward if the respondent did not report a new heart attack. Respondents who have never had a heart attack are not asked this question and are assigned a special missing code .x. RwRECSTROK is also assigned a special missing value .i if the year reported was invalid. Don't know, refused, or other missing responses of RwRECSTROK are assigned special missing codes .d, .r, and .m, respectively. RwRECSTROK is set to plain missing (.) for respondents who did not participate in the current wave.

SwRECSTROK indicates the most recent age at which the respondent's current wave's spouse had a heart attack, and is taken from RwRECSTROK. In addition to the special codes employed by RwRECSTROK, SwRECSTROK employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

For each diagnosed condition (heart attack, cancer, and stroke), respondents are asked the year or age in which they were diagnosed. In waves 1 and 2, these responses are converted to the year of diagnosis in the MHAS data. Starting in wave 3, both year and/or age responses are recorded in the MHAS data. RwRECCANCR, RwRECHRTATT, and RwRECSTROK are then constructed using first the reported year or age. Previous responses are carried forward if the respondent does not report a new diagnosis.

**Differences with the RAND HRS/Harmonized HRS**

Different to the HRS, starting in wave 3, the MHAS recorded both year and/or age of diagnosis while the HRS only recorded the year of diagnosis.

**MHAS Variables Used**

## Wave 1:

C12	cancer or tumor
C18	year of cancer
C22	heart attack
C23	year of heart attack
C27	stroke
C32	year of stroke

## Wave 2:

C12	doctor ever say you have cancer
C18	when was most recent cancer diagnosed
C22A	doctor ever say you had a heart attack
C22B	when have last heart attack
C26	doctor ever say you had a stroke
C30	when did you have your last stroke

## Wave 3:

C18_1_12	Respondent's year of most recent cancer diagnosis
C18_2_12	Respondent's age of most recent cancer diagnosis
C22B1_12	Respondent's year of most recent heart attack
C22B2_12	Respondent's age of most recent heart attack
C30_1_12	Respondent's year of recent stroke
C30_2_12	Respondent's age of recent stroke

## Wave 4:

C18_1_15	Respondent's year when most recent cancer diagnosed
C18_2_15	Respondent's age when most recent cancer diagnosed
C22B1_15	Respondent's year of (most) recent heart attack
C22B2_15	Respondent's age of (most) recent heart attack
C30_1_15	Year respondent had (most) recent stroke
C30_2_15	Respondent's age of (most) recent stroke



<b>Vision</b>
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Wave	Variable	Label	Type
1	R1SIGHT	r1sight: w1 R Self-rated eyesight	Categ
2	R2SIGHT	r2sight: w2 R Self-rated eyesight	Categ
3	R3SIGHT	r3sight: w3 R Self-rated eyesight	Categ
4	R4SIGHT	r4sight: w4 R Self-rated eyesight	Categ
1	S1SIGHT	s1sight: w1 S Self-rated eyesight	Categ
2	S2SIGHT	s2sight: w2 S Self-rated eyesight	Categ
3	S3SIGHT	s3sight: w3 S Self-rated eyesight	Categ
4	S4SIGHT	s4sight: w4 S Self-rated eyesight	Categ
1	R1GLASSES	r1glasses: w1 R Wears glasses	Categ
2	R2GLASSES	r2glasses: w2 R Wears glasses	Categ
3	R3GLASSES	r3glasses: w3 R Wears glasses	Categ
4	R4GLASSES	r4glasses: w4 R Wears glasses	Categ
1	S1GLASSES	s1glasses: w1 S Wears glasses	Categ
2	S2GLASSES	s2glasses: w2 S Wears glasses	Categ
3	S3GLASSES	s3glasses: w3 S Wears glasses	Categ
4	S4GLASSES	s4glasses: w4 S Wears glasses	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SIGHT	14049	3.38	0.90	1.00	6.00
R2SIGHT	12446	3.40	0.90	1.00	6.00
R3SIGHT	14101	3.34	0.90	1.00	6.00
R4SIGHT	13837	3.40	0.89	1.00	6.00
S1SIGHT	9909	3.36	0.90	1.00	6.00
S2SIGHT	8693	3.38	0.88	1.00	6.00
S3SIGHT	9639	3.33	0.90	1.00	6.00
S4SIGHT	9177	3.38	0.88	1.00	6.00
R1GLASSES	15162	0.40	0.49	0.00	1.00
R2GLASSES	13700	0.43	0.50	0.00	1.00
R3GLASSES	15721	0.50	0.50	0.00	1.00
R4GLASSES	14772	0.53	0.50	0.00	1.00
S1GLASSES	10629	0.39	0.49	0.00	1.00
S2GLASSES	9562	0.43	0.49	0.00	1.00
S3GLASSES	10590	0.49	0.50	0.00	1.00
S4GLASSES	9649	0.52	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1SIGHT	R2SIGHT	R3SIGHT	R4SIGHT
.d:DK	43	72	271	11
.m:Missing	4			2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	58	8	76	
1.Excellent	427	443	604	580
2.Very good	1363	893	1168	909
3.Good	6029	5577	6203	5815
4.Fair	4891	4309	5071	5507
5.Poor	1295	1171	1014	979
6.Legally Blind	44	53	41	47
Value-----	S1SIGHT	S2SIGHT	S3SIGHT	S4SIGHT
.d:DK	34	46	180	5
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	42	4	47	
.u:Unmar	4205	4009	4782	4847

.v:SP NR	333	131	349	280
1.Excellent	322	306	427	398
2.Very good	988	626	820	601
3.Good	4254	3990	4258	3902
4.Fair	3482	3009	3479	3662
5.Poor	843	735	631	590
6.Legally Blind	20	27	24	24

Value-----	R1GLASSES	R2GLASSES	R3GLASSES	R4GLASSES
.d:DK	6	3		
.m:Missing	4			2
.p:Proxy interview, not asked	2			1
.r:Refuse	12	1	2	4
0.no	9092	7768	7829	7009
1.yes	6070	5932	7892	7763

Value-----	S1GLASSES	S2GLASSES	S3GLASSES	S4GLASSES
.d:DK	5	2		
.m:Missing	3			
.p:Proxy interview, not asked	1			
.r:Refuse	10		2	3
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	6521	5487	5377	4608
1.yes	4108	4075	5213	5041

## How Constructed

RwSIGHT indicates the respondent's self-rated vision (while wearing glasses if they normally do). RwSIGHT is coded as follows: 1.Excellent, 2.Very good, 3.Good, 4.fair, 5.Poor, and 6.Legally blind. Please note that "legally blind" is not a specified option, but rather a voluntary response from the respondent. When respondents don't know or refuse to answer, RwSIGHT is assigned special missing values .d or .r, respectively. RwSIGHT is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. RwSIGHT is assigned plain missing (.) if the respondent did not participate in the current wave.

RwGLASSES indicates whether the respondent usually wears glasses and is coded as 1 "Yes" and 0 "No". When respondents don't know or refuse to answer, RwGLASSES is assigned special missing values .d or .r, respectively. RwGLASSES is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. RwGLASSES is assigned plain missing (.) if the respondent did not participate in the current wave.

SwSIGHT and SwGLASSES variables are taken from the Wave 'w' spouse's self-reported RwSIGHT and RwGLASSES variables. In addition to the special missing codes used in RwSIGHT and RwGLASSES, SwSIGHT and SwGLASSES employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:

- C44 glasses
- C45 vision

Wave 2:

- C41 use glasses
- C42 status of vision (with glasses)

Wave 3:

- C41\_12 Respondent wears glasses
- C42\_12 Respondent's vision with glasses

Wave 4:

- C41\_15 Does respondent usually wears glasses
- C42\_15 Respondent's vision (with glasses)

<b>Hearing</b>
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Wave	Variable	Label	Type
1	R1HEARING	r1hearing: w1 R Self-rated hearing	Categ
2	R2HEARING	r2hearing: w2 R Self-rated hearing	Categ
3	R3HEARING	r3hearing: w3 R Self-rated hearing	Categ
4	R4HEARING	r4hearing: w4 R Self-rated hearing	Categ
1	S1HEARING	s1hearing: w1 S Self-rated hearing	Categ
2	S2HEARING	s2hearing: w2 S Self-rated hearing	Categ
3	S3HEARING	s3hearing: w3 S Self-rated hearing	Categ
4	S4HEARING	s4hearing: w4 S Self-rated hearing	Categ
1	R1HEARAIID	r1hearaid: w1 R Wears hearing aid	Categ
2	R2HEARAIID	r2hearaid: w2 R Wears hearing aid	Categ
3	R3HEARAIID	r3hearaid: w3 R Wears hearing aid	Categ
4	R4HEARAIID	r4hearaid: w4 R Wears hearing aid	Categ
1	S1HEARAIID	s1hearaid: w1 S Wears hearing aid	Categ
2	S2HEARAIID	s2hearaid: w2 S Wears hearing aid	Categ
3	S3HEARAIID	s3hearaid: w3 S Wears hearing aid	Categ
4	S4HEARAIID	s4hearaid: w4 S Wears hearing aid	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HEARING	13940	3.04	0.87	1.00	6.00
R2HEARING	12359	3.11	0.85	1.00	6.00
R3HEARING	164	3.43	1.03	1.00	6.00
R4HEARING	13805	3.19	0.85	1.00	6.00
S1HEARING	9824	3.01	0.87	1.00	6.00
S2HEARING	8626	3.09	0.85	1.00	6.00
S3HEARING	97	3.42	1.04	1.00	6.00
S4HEARING	9161	3.17	0.84	1.00	6.00
R1HEARAIID	15160	0.01	0.12	0.00	1.00
R2HEARAIID	13700	0.02	0.13	0.00	1.00
R3HEARAIID	15719	0.01	0.12	0.00	1.00
R4HEARAIID	14775	0.02	0.14	0.00	1.00
S1HEARAIID	10627	0.01	0.12	0.00	1.00
S2HEARAIID	9560	0.02	0.13	0.00	1.00
S3HEARAIID	10589	0.01	0.11	0.00	1.00
S4HEARAIID	9652	0.02	0.13	0.00	1.00

### Categorical Variable Codes

Value-----	R1HEARING	R2HEARING	R3HEARING	R4HEARING
.d:DK	70	116	1	34
.m:Missing	4			2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	140	51	2	9
.x:no hearing aid			14281	
1.Excellent	802	589	7	673
2.Very good	1961	1435	23	1331
3.Good	7747	7052	47	7101
4.Fair	2774	2631	67	4121
5.Poor	643	637	19	576
6.Legally Deaf	13	15	1	3
Value-----	S1HEARING	S2HEARING	S3HEARING	S4HEARING
.d:DK	52	80		17
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	109	37	1	4

.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no hearing aid			9768	
1.Excellent	610	427	3	461
2.Very good	1405	1028	17	894
3.Good	5503	4965	26	4777
4.Fair	1883	1788	39	2698
5.Poor	416	405	11	329
6.Legally Deaf	7	13	1	2
Value-----	R1HEARAID	R2HEARAID	R3HEARAID	R4HEARAID
.d:DK	8	3	1	1
.m:Missing	4			2
.r:Refuse	14	1	3	1
0.no	14945	13455	15504	14487
1.yes	215	245	215	288
Value-----	S1HEARAID	S2HEARAID	S3HEARAID	S4HEARAID
.d:DK	8	3	1	
.m:Missing	3			
.r:Refuse	10	1	2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	10480	9408	10467	9485
1.yes	147	152	122	167

## How Constructed

RwHEARING indicates the respondent's self-rated hearing (while wearing hearing aid if they normally do). RwHEARING is coded as follows: 1.Excellent, 2.Very good, 3.Good, 4.Fair, 5.Poor, and 6.Legally deaf. Please note that "legally deaf" is not a specified option, but rather a voluntary response from the respondent. When respondents don't know or refuse to answer, RwHEARING is assigned special missing values .d or .r, respectively. RwHEARING is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. In Wave 3, respondents are not asked to rate their hearing if they reported not using a hearing aid or answered don't know or refused to the hearing aid question, in which case RwHEARING is assigned special missing .x. RwHEARING is assigned plain missing (.) if the respondent did not participate in the current wave.

RwHEARAID indicates whether the respondent usually wears a hearing aid and is coded as 1 "Yes" and 0 "No". When respondents don't know or refuse to answer, RwHEARAID is assigned special missing values .d or .r, respectively. RwHEARAID is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. RwHEARAID is assigned plain missing (.) if the respondent did not participate in the current wave.

SwHEARING and SwHEARAID variables are taken from the Wave 'w' spouse's self-reported RwHEARING and RwHEARAID variables. In addition to the special missing codes used in RwHEARING and RwHEARAID, SwHEARING and SwHEARAID employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Different from all other waves, in Wave 3 the self-reported hearing question is skipped if the respondent reports not using a hearing aid, or if they answer don't know or refused to the hearing aid question.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:  
  C46           hearing aid  
  C47           hearing range  
Wave 2:  
  C43           use hearing aid  
  C44           status of hearing (with hearing aid)  
Wave 3:

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C43_12	Respondent uses hearing/auditory device
C44_12	Respondent's hearing range with hearing/auditory device
Wave 4:	
C43_15	Does respondent use hearing aid/auditory device
C44_15	Respondent's hearing range with hearing aid/auditory de

<b>Falls</b>
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Wave	Variable	Label	Type
1	R1FALL	r1fall: w1 R Fallen down last 2 years	Categ
2	R2FALL	r2fall: w2 R Fallen down last 2 years	Categ
3	R3FALL	r3fall: w3 R Fallen down last 2 years	Categ
4	R4FALL	r4fall: w4 R Fallen down last 2 years	Categ
1	S1FALL	s1fall: w1 S Fallen down last 2 years	Categ
2	S2FALL	s2fall: w2 S Fallen down last 2 years	Categ
3	S3FALL	s3fall: w3 S Fallen down last 2 years	Categ
4	S4FALL	s4fall: w4 S Fallen down last 2 years	Categ
1	R1FALLNUM	r1fallnum: w1 R Number of falls	Cont
2	R2FALLNUM	r2fallnum: w2 R Number of falls	Cont
3	R3FALLNUM	r3fallnum: w3 R Number of falls	Cont
4	R4FALLNUM	r4fallnum: w4 R Number of falls	Cont
1	S1FALLNUM	s1fallnum: w1 S Number of falls	Cont
2	S2FALLNUM	s2fallnum: w2 S Number of falls	Cont
3	S3FALLNUM	s3fallnum: w3 S Number of falls	Cont
4	S4FALLNUM	s4fallnum: w4 S Number of falls	Cont
1	R1FALLINJ	r1fallinj: w1 R Injured from fall	Categ
2	R2FALLINJ	r2fallinj: w2 R Injured from fall	Categ
3	R3FALLINJ	r3fallinj: w3 R Injured from fall	Categ
4	R4FALLINJ	r4fallinj: w4 R Injured from fall	Categ
1	S1FALLINJ	s1fallinj: w1 S Injured from fall	Categ
2	S2FALLINJ	s2fallinj: w2 S Injured from fall	Categ
3	S3FALLINJ	s3fallinj: w3 S Injured from fall	Categ
4	S4FALLINJ	s4fallinj: w4 S Injured from fall	Categ
1	R1HIPE_M	r1hipe_m: w1 R Ever fractured a bone (including hip)	Categ
2	R2HIPE_M	r2hipe_m: w2 R Ever fractured a bone (including hip)	Categ
3	R3HIPE_M	r3hipe_m: w3 R Ever fractured a bone (including hip)	Categ
4	R4HIPE_M	r4hipe_m: w4 R Ever fractured a bone (including hip)	Categ
1	S1HIPE_M	s1hipe_m: w1 S Ever fractured a bone (including hip)	Categ
2	S2HIPE_M	s2hipe_m: w2 S Ever fractured a bone (including hip)	Categ
3	S3HIPE_M	s3hipe_m: w3 S Ever fractured a bone (including hip)	Categ
4	S4HIPE_M	s4hipe_m: w4 S Ever fractured a bone (including hip)	Categ
3	R3HIP_M	r3hip_m: w3 R Fractured a bone (including hip) in the last 2	Categ
4	R4HIP_M	r4hip_m: w4 R Fractured a bone (including hip) in the last 2	Categ
3	S3HIP_M	s3hip_m: w3 S Fractured a bone (including hip) in the last 2	Categ
4	S4HIP_M	s4hip_m: w4 S Fractured a bone (including hip) in the last 2	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1FALL	15159	0.35	0.48	0.00	1.00
R2FALL	13683	0.36	0.48	0.00	1.00
R3FALL	15715	0.39	0.49	0.00	1.00
R4FALL	14766	0.44	0.50	0.00	1.00
S1FALL	10625	0.32	0.47	0.00	1.00
S2FALL	9554	0.33	0.47	0.00	1.00
S3FALL	10585	0.36	0.48	0.00	1.00
S4FALL	9647	0.41	0.49	0.00	1.00
R1FALLNUM	15038	0.99	2.42	0.00	50.00
R2FALLNUM	13590	1.00	2.46	0.00	50.00
R3FALLNUM	15676	1.14	2.94	0.00	98.00

R4FALLNUM	14728	1.29	3.11	0.00	98.00
S1FALLNUM	10549	0.86	2.23	0.00	50.00
S2FALLNUM	9494	0.88	2.31	0.00	50.00
S3FALLNUM	10567	1.00	2.56	0.00	98.00
S4FALLNUM	9625	1.14	2.71	0.00	80.00
R1FALLINJ	11845	0.17	0.38	0.00	1.00
R2FALLINJ	10740	0.19	0.39	0.00	1.00
R3FALLINJ	11792	0.19	0.39	0.00	1.00
R4FALLINJ	10602	0.23	0.42	0.00	1.00
S1FALLINJ	8488	0.15	0.35	0.00	1.00
S2FALLINJ	7624	0.16	0.37	0.00	1.00
S3FALLINJ	8083	0.16	0.37	0.00	1.00
S4FALLINJ	7042	0.20	0.40	0.00	1.00
R1HIPE_M	13416	0.13	0.34	0.00	1.00
R2HIPE_M	5528	0.19	0.39	0.00	1.00
R3HIPE_M	15289	0.17	0.38	0.00	1.00
R4HIPE_M	14620	0.23	0.42	0.00	1.00
S1HIPE_M	9014	0.11	0.32	0.00	1.00
S2HIPE_M	3553	0.17	0.37	0.00	1.00
S3HIPE_M	10193	0.15	0.35	0.00	1.00
S4HIPE_M	9510	0.20	0.40	0.00	1.00
R3HIP_M	15286	0.05	0.22	0.00	1.00
R4HIP_M	14614	0.05	0.22	0.00	1.00
S3HIP_M	10192	0.04	0.20	0.00	1.00
S4HIP_M	9509	0.05	0.21	0.00	1.00

### Categorical Variable Codes

Value-----	R1FALL	R2FALL	R3FALL	R4FALL
.d:DK	19	19	5	9
.m:Missing	4			2
.r:Refuse	4	2	3	2
0.no	9781	8711	9552	8209
1.yes	5378	4972	6163	6557
Value-----	S1FALL	S2FALL	S3FALL	S4FALL
.d:DK	16	9	4	4
.m:Missing	3			
.r:Refuse	4	1	3	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	7233	6387	6762	5649
1.yes	3392	3167	3823	3998
Value-----	R1FALLINJ	R2FALLINJ	R3FALLINJ	R4FALLINJ
.d:DK	28	21	7	9
.m:Missing	4			2
.r:Refuse	23	2	6	2
.x:does not have condition	3286	2941	3918	4164
0.no	9781	8711	9552	8209
1.yes	2064	2029	2240	2393
Value-----	S1FALLINJ	S2FALLINJ	S3FALLINJ	S4FALLINJ
.d:DK	20	11	4	4
.m:Missing	3			
.r:Refuse	17	1	5	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have condition	2120	1928	2500	2605
0.no	7233	6387	6762	5649
1.yes	1255	1237	1321	1393
Value-----	R1HIPE_M	R2HIPE_M	R3HIPE_M	R4HIPE_M
.a:age lt 50	1379	205	430	42
.d:DK	89	16	2	114

.m:Missing	65			2
.r:Refuse	237	2	2	1
.s:Skip		7953		
0.no	11667	4500	12629	11313
1.yes	1749	1028	2660	3307
Value-----	S1HIPE_M	S2HIPE_M	S3HIPE_M	S4HIPE_M
.a:age lt 50	1324	190	396	41
.d:DK	68	8	1	100
.m:Missing	51			
.r:Refuse	191	1	2	1
.s:Skip		5812		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	7979	2952	8698	7652
1.yes	1035	601	1495	1858
Value-----			R3HIP_M	R4HIP_M
.a:age lt 50			430	42
.d:DK			4	120
.m:Missing				2
.r:Refuse			3	1
0.no			14528	13845
1.yes			758	769
Value-----			S3HIP_M	S4HIP_M
.a:age lt 50			396	41
.d:DK			1	101
.r:Refuse			3	1
.u:Unmar			4782	4847
.v:SP NR			349	280
0.no			9767	9069
1.yes			425	440

## How Constructed

RwFALL indicates whether the respondent has fallen down in the last 2 years. RwFALL is coded as 0.No and 1.Yes. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwFALL is set to plain missing (.) for respondents who did not participate in the current wave.

RwFALLNUM indicates the number of times the respondent has fallen down (in the last 2 years). RwFALLNUM is coded as 0 if the respondent has not fallen down in the last 2 years. RwFALLINJ indicates whether the respondent has ever been injured seriously enough from a fall to need medical treatment. RwFALLINJ is coded as 0.No and 1.Yes. RwFALLINJ is assigned special missing .x if the respondent did not experience a fall in the previous two years. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwFALLNUM and RwFALLINJ are set to plain missing (.) for respondents who did not participate in the current wave.

RwHIPE\_M indicates whether the respondent has ever had a fractured a bone, including the hip, since their fiftieth birthday. RwHIP\_M indicates whether the respondent has fractured a bone, including the hip, in the past two years. RwHIP\_M is available starting in wave 3. RwHIPE\_M and RwHIP\_M are coded as 0.No and 1.Yes. Respondents younger than age 50 are not asked about a broken hip and RwHIPE\_M and RwHIP\_M are assigned special missing .a. In wave 2, RwHIPE\_M is assigned special missing .s if the respondent had not fallen down in the last two years and the question about hip fracture was skipped. Don't know, refused, or other missing responses of are assigned special missing codes .d, .r, and .m, respectively. RwHIPE\_M and RwHIP\_M are set to plain missing (.) for respondents who did not participate in the current wave.

SwFALL, SwFALLNUM, SwFALLINJ, SwHIPE\_M, and SwHIP\_M variables are taken from the Wave 'w' spouse's self-reported RwFALL, RwFALLNUM, RwFALLINJ, RwHIPE\_M, and RwHIP\_M variables. In addition to the special missing codes used in RwFALL, RwFALLNUM, RwFALLINJ, RwHIPE\_M, and RwHIP\_M; SwFALL, SwFALLNUM, SwFALLINJ, SwHIPE\_M, and SwHIP\_M employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In wave 1, all respondents age 50 and older are asked if they have fractured any bone including their hip since their fiftieth birthday. In wave 2, respondents age 50 and older who have fallen in the last two years are asked if they have fractured any bone including their hip since their fiftieth birthday. In waves 3 and 4, follow-up respondents age 50 and older are asked if they have



fractured any bones including their hip in the last 10 years, while new respondents age 50 and older are asked if they have fractured any bones including their hip since their fiftieth birthday. If follow-up or new respondents report a fracture, they are then asked if the fracture occurred in the last two years.

### Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked whether they have fractured the hip, whereas in the MHAS respondent are asked if the fractured any bone, including the hip. As such, the Harmonized HRS includes RWHIPE, indicating whether the respondent has ever broken their hip, while the Harmonized MHAS includes RWHIPE\_M and RWHIP\_M, indicating whether the respondent has broken a bone including their hip since their fiftieth birthday or in the last two years, respectively.

### MHAS Variables Used

#### Wave 1:

C40                   fallen down  
C41                   number of falls  
C42                   treatment for falls  
C43                   bone fracture

#### Wave 2:

C37                   fell in last two years  
C38                   number of falls  
C39                   needed to see doctor after fall  
C40                   broken bones since age 50

#### Wave 3:

C37\_12               Last 2 years:Has respondent fallen down  
C38\_12               Last 2 years:Respondent's number of falls  
C39\_12               Last 2 years:Respondent's treatment for falls  
C40A\_12              Since age 50:Has respondent fractured bone(s)  
C40B\_12              Last 10 years:Has respondent fractured bone(s)  
C40C\_12              Last 2 years:Did respondent fracture bone(s)

#### Wave 4:

C37\_15               In the last 2 years: Has respondent fall down  
C38\_15               In the last 2 years: Respondent's number of falls  
C39\_15               In the last 2 years: Respondent needed treatment for fa  
C40A\_15              Since age 50: Has respondent fractured any bone(s)  
C40B\_15              Last 10 years: Has respondent fractured any bone(s)

<b>Urinary Incontinence</b>
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Wave	Variable	Label	Type
1	R1URINA2Y	r1urina2y: w1 R Any urinary incontinence (last 2 yrs)	Categ
2	R2URINA2Y	r2urina2y: w2 R Any urinary incontinence (last 2 yrs)	Categ
1	S1URINA2Y	s1urina2y: w1 S Any urinary incontinence (last 2 yrs)	Categ
2	S2URINA2Y	s2urina2y: w2 S Any urinary incontinence (last 2 yrs)	Categ
3	R3URINURG2Y	r3urinurg2y: w3 R Urge to urinate (last 2 yrs)	Categ
4	R4URINURG2Y	r4urinurg2y: w4 R Urge to urinate (last 2 yrs)	Categ
3	S3URINURG2Y	s3urinurg2y: w3 S Urge to urinate (last 2 yrs)	Categ
4	S4URINURG2Y	s4urinurg2y: w4 S Urge to urinate (last 2 yrs)	Categ
3	R3URINCGH2Y	r3urincgh2y: w3 R Leaks urine when coughing (last 2 yrs)	Categ
4	R4URINCGH2Y	r4urincgh2y: w4 R Leaks urine when coughing (last 2 yrs)	Categ
3	S3URINCGH2Y	s3urincgh2y: w3 S Leaks urine when coughing (last 2 yrs)	Categ
4	S4URINCGH2Y	s4urincgh2y: w4 S Leaks urine when coughing (last 2 yrs)	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1URINA2Y	14121	0.08	0.27	0.00	1.00
R2URINA2Y	12517	0.09	0.28	0.00	1.00
S1URINA2Y	9966	0.07	0.26	0.00	1.00
S2URINA2Y	8738	0.08	0.28	0.00	1.00
R3URINURG2Y	14432	0.15	0.35	0.00	1.00
R4URINURG2Y	13837	0.20	0.40	0.00	1.00
S3URINURG2Y	9856	0.13	0.34	0.00	1.00
S4URINURG2Y	9178	0.18	0.39	0.00	1.00
R3URINCGH2Y	14437	0.15	0.36	0.00	1.00
R4URINCGH2Y	13837	0.19	0.39	0.00	1.00
S3URINCGH2Y	9859	0.14	0.35	0.00	1.00
S4URINCGH2Y	9178	0.17	0.38	0.00	1.00

### Categorical Variable Codes

Value-----	R1URINA2Y	R2URINA2Y
.d:DK	13	8
.m:Missing	4	
.p:Proxy interview, not asked	1032	1178
.r:Refuse	16	1
0.no	13023	11408
1.yes	1098	1109

Value-----	S1URINA2Y	S2URINA2Y
.d:DK	8	4
.m:Missing	3	
.p:Proxy interview, not asked	660	821
.r:Refuse	11	1
.u:Unmar	4205	4009
.v:SP NR	333	131
0.no	9242	8004
1.yes	724	734

Value-----	R3URINURG2Y	R4URINURG2Y
.d:DK	4	1
.m:Missing		9
.p:Proxy interview, not asked	1275	929

.r:Refuse		12	3
0.no		12328	11034
1.yes		2104	2803
Value-----		S3URINURG2Y	S4URINURG2Y
.d:DK		2	1
.m:Missing			1
.p:Proxy interview, not asked		726	470
.r:Refuse		8	2
.u:Unmar		4782	4847
.v:SP NR		349	280
0.no		8531	7487
1.yes		1325	1691
Value-----		R3URINCGH2Y	R4URINCGH2Y
.d:DK		3	2
.m:Missing			9
.p:Proxy interview, not asked		1275	929
.r:Refuse		8	2
0.no		12203	11204
1.yes		2234	2633
Value-----		S3URINCGH2Y	S4URINCGH2Y
.d:DK		2	1
.m:Missing			1
.p:Proxy interview, not asked		726	470
.r:Refuse		5	2
.u:Unmar		4782	4847
.v:SP NR		349	280
0.no		8460	7579
1.yes		1399	1599

## How Constructed

RwURINA2Y indicates whether the respondent has experienced any urinary incontinence in the last 2 yrs. RwURINA2Y is only available in waves 1 and 2. RwURINA2Y is coded as 0.No and 1.Yes. RwURINA2Y is set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwURINA2Y is set to plain missing (.) for respondents who did not participate in the current wave.

RwURINCGH2Y indicates whether in the last 2 years, the respondent has experienced any incontinence when coughing, sneezing, picking something up, or exercising. RwURINURG2Y indicates whether the respondent has experienced any incontinence when they had the urge to urinate, but couldn't reach the bathroom in time. RwURINCGH2Y and Rw4URINURG2Y are available starting in wave 3. RwURINCGH2Y and Rw4URINURG2Y are coded as 0.No and 1.Yes. RwURINCGH2Y and Rw4URINURG2Y are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwURINCGH2Y and Rw4URINURG2Y are set to plain missing (.) for respondents who did not participate in the current wave.

SwURINA2Y, SwURINCGH2Y, and SwURINURG2Y variables are taken from the Wave 'w' spouse's self-reported RwURINA2Y, RwURINCGH2Y, and RwURINURG2Y variables. In addition to the special missing codes used in RwURINA2Y, RwURINCGH2Y, and RwURINURG2Y; SwURINA2Y, SwURINCGH2Y, and SwURINURG2Y employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The series of questions on urinary incontinence in the MHAS are part of the symptoms battery in the Health section. These questions have been modified across waves. In the first waves, respondents were only asked if they had experienced any urinary incontinence. However, starting in wave 3, respondents were instead asked, in two separate questions, if they had experienced any incontinence when coughing, sneezing, picking something up, or exercising, and if they had experienced any incontinence when they had the urge to urinate, but couldn't reach the bathroom in time.

## Differences with the RAND HRS/Harmonized HRS

Different to the HRS, in the MHAS respondents are asked whether they have experienced any of these symptoms in the past 2 years instead of the past 12 months. As such, the Harmonized HRS includes

RwURINA, RwURINCGH, and RwURINURG, while the Harmonized MHAS includes RwURINA2Y, RwURINCGH2Y, and RwURINURG2Y due to the different time frames.

### MHAS Variables Used

Wave 1:

C73I urine loss

Wave 2:

C68I involuntary bladder movements

Wave 3:

C68G\_12 Last 2 years:frequent incontinence while performing tas

C68H\_12 Last 2 years:Frequent incontinence with urge to urinate

Wave 4:

C68G\_15 During the last 2 years: Respondent had frequent incont

C68H\_15 During the last 2 years: Respondent had frequent incont

<b>Persistent Health Problems</b>
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Wave	Variable	Label	Type
1	R1SWELL	r1swell: w1 R Persistent swelling in feet/ankles	Categ
2	R2SWELL	r2swell: w2 R Persistent swelling in feet/ankles	Categ
3	R3SWELL	r3swell: w3 R Persistent swelling in feet/ankles	Categ
4	R4SWELL	r4swell: w4 R Persistent swelling in feet/ankles	Categ
1	S1SWELL	s1swell: w1 S Persistent swelling in feet/ankles	Categ
2	S2SWELL	s2swell: w2 S Persistent swelling in feet/ankles	Categ
3	S3SWELL	s3swell: w3 S Persistent swelling in feet/ankles	Categ
4	S4SWELL	s4swell: w4 S Persistent swelling in feet/ankles	Categ
1	R1BREATH_M	r1breath_m: w1 R Difficulty breathing while lying down	Categ
2	R2BREATH_M	r2breath_m: w2 R Difficulty breathing while lying down	Categ
3	R3BREATH_M	r3breath_m: w3 R Difficulty breathing or coughing	Categ
4	R4BREATH_M	r4breath_m: w4 R Difficulty breathing or coughing	Categ
1	S1BREATH_M	s1breath_m: w1 S Difficulty breathing while lying down	Categ
2	S2BREATH_M	s2breath_m: w2 S Difficulty breathing while lying down	Categ
3	S3BREATH_M	s3breath_m: w3 S Difficulty breathing or coughing	Categ
4	S4BREATH_M	s4breath_m: w4 S Difficulty breathing or coughing	Categ
1	R1WHEEZE	r1wheeze: w1 R Persistent wheezing	Categ
2	R2WHEEZE	r2wheeze: w2 R Persistent wheezing	Categ
1	S1WHEEZE	s1wheeze: w1 S Persistent wheezing	Categ
2	S2WHEEZE	s2wheeze: w2 S Persistent wheezing	Categ
1	R1FATIGUE	r1fatigue: w1 R Severe fatigue	Categ
2	R2FATIGUE	r2fatigue: w2 R Severe fatigue	Categ
3	R3FATIGUE	r3fatigue: w3 R Severe fatigue	Categ
4	R4FATIGUE	r4fatigue: w4 R Severe fatigue	Categ
1	S1FATIGUE	s1fatigue: w1 S Severe fatigue	Categ
2	S2FATIGUE	s2fatigue: w2 S Severe fatigue	Categ
3	S3FATIGUE	s3fatigue: w3 S Severe fatigue	Categ
4	S4FATIGUE	s4fatigue: w4 S Severe fatigue	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SWELL	14128	0.28	0.45	0.00	1.00
R2SWELL	12518	0.26	0.44	0.00	1.00
R3SWELL	14442	0.26	0.44	0.00	1.00
R4SWELL	13839	0.26	0.44	0.00	1.00
S1SWELL	9970	0.27	0.44	0.00	1.00
S2SWELL	8737	0.24	0.43	0.00	1.00
S3SWELL	9862	0.24	0.43	0.00	1.00
S4SWELL	9177	0.24	0.43	0.00	1.00
R1BREATH_M	14127	0.14	0.35	0.00	1.00
R2BREATH_M	12521	0.14	0.35	0.00	1.00
R3BREATH_M	14443	0.18	0.38	0.00	1.00
R4BREATH_M	13841	0.19	0.40	0.00	1.00
S1BREATH_M	9969	0.14	0.35	0.00	1.00
S2BREATH_M	8739	0.14	0.35	0.00	1.00
S3BREATH_M	9862	0.17	0.38	0.00	1.00
S4BREATH_M	9179	0.19	0.39	0.00	1.00
R1WHEEZE	14120	0.18	0.38	0.00	1.00
R2WHEEZE	12524	0.17	0.38	0.00	1.00

S1WHEEZE	9964	0.17	0.37	0.00	1.00
S2WHEEZE	8741	0.16	0.37	0.00	1.00
R1FATIGUE	14118	0.27	0.44	0.00	1.00
R2FATIGUE	12523	0.26	0.44	0.00	1.00
R3FATIGUE	14440	0.22	0.41	0.00	1.00
R4FATIGUE	13838	0.21	0.41	0.00	1.00
S1FATIGUE	9960	0.26	0.44	0.00	1.00
S2FATIGUE	8740	0.25	0.43	0.00	1.00
S3FATIGUE	9859	0.21	0.41	0.00	1.00
S4FATIGUE	9178	0.20	0.40	0.00	1.00

### Categorical Variable Codes

Value-----	R1SWELL	R2SWELL	R3SWELL	R4SWELL
.d:DK	10	7	2	3
.m:Missing	4			7
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	12	1	4	1
0.no	10169	9252	10754	10308
1.yes	3959	3266	3688	3531

Value-----	S1SWELL	S2SWELL	S3SWELL	S4SWELL
.d:DK	7	6	1	3
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	8		3	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	7282	6610	7497	6957
1.yes	2688	2127	2365	2220

Value-----	R1BREATH_M	R2BREATH_M	R3BREATH_M	R4BREATH_M
.d:DK	10	3		1
.m:Missing	4			7
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	13	2	5	1
0.no	12101	10737	11855	11160
1.yes	2026	1784	2588	2681

Value-----	S1BREATH_M	S2BREATH_M	S3BREATH_M	S4BREATH_M
.d:DK	8	2		1
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	8	2	4	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	8554	7523	8143	7467
1.yes	1415	1216	1719	1712

Value-----	R1WHEEZE	R2WHEEZE
.d:DK	13	2
.m:Missing	4	
.p:Proxy interview, not asked	1032	1178
.r:Refuse	17	
0.no	11625	10345
1.yes	2495	2179

Value-----	S1WHEEZE	S2WHEEZE
.d:DK	9	2
.m:Missing	3	
.p:Proxy interview, not asked	660	821
.r:Refuse	12	
.u:Unmar	4205	4009
.v:SP NR	333	131
0.no	8310	7322
1.yes	1654	1419

Value-----	R1FATIGUE	R2FATIGUE	R3FATIGUE	R4FATIGUE
.d:DK	14	2	2	1
.m:Missing	4			7
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	18	1	6	4
0.no	10315	9294	11282	10928

	3803	3229	3158	2910
1.yes				
Value-----	S1FATIGUE	S2FATIGUE	S3FATIGUE	S4FATIGUE
.d:DK	11	2	2	1
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	14	1	5	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	7351	6576	7784	7331
1.yes	2609	2164	2075	1847

## How Constructed

RwSWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE indicate whether the respondent has experienced any persistent health problems in the last 2 years. These variables are coded as 0.no, and 1.yes. RwsWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwSWELL indicates whether the respondent has experienced persistent swelling in their feet or ankles. In waves 1 and 2, RwbREATH\_M indicates whether the respondent has experienced difficulty breathing while lying down. Starting in wave 3, RwbREATH\_M indicates whether the respondent has experienced difficulting breathing, panting or coughing, or phlegm. In waves 1 and 2, RwwHEEZE indicates whether the respondent has experienced persistent wheezing or cough, or bringing up phlegm. RwfFATIGUE indicates whether the respondent has experienced severe fatigue or exhaustion.

SwSWELL, SwbREATH\_M, SwwHEEZE, and SwfFATIGUE variables are taken from the Wave 'w' spouse's self-reported RwsWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE variables. In addition to the special missing codes used in RwsWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE; SwSWELL, SwbREATH\_M, SwwHEEZE, and SwfFATIGUE employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In waves 1 and 2, the respondent is asked whether they had difficulty breathing while lying down and whether they had wheezing or cough, or bring up phlegm, as separate questions. Starting in wave 3, the respondent is asked a single question asking whether they had difficulty breathing, panting or coughing, or phlegm.

## Differences with the RAND HRS/Harmonized HRS

RwbREATH\_M is a Harmonized MHAS specific variable to reflect the difference between the HRS and the MHAS. In the MHAS, respondents are asked whether they had difficulty breathing while lying down in waves 1 and 2, and whether they have experienced difficulty breathing, pantings or coughing, or phlegm starting in wave 3, while in the HRS they are asked whether they have experienced shortness of breath while awake.

## MHAS Variables Used

### Wave 1:

C73A swelling feet  
 C73B breathing difficulty  
 C73E severe fatigue  
 C73F wheezing

### Wave 2:

C68A pain in feet/knees  
 C68B difficulty in breathing  
 C68E severe fatigue  
 C68F cough

### Wave 3:

C68A\_12 Last 2 years:Respondent had frequent swelling feet/ankl  
 C68B\_12 Last 2 years:Respondent had frequent difficulty breathi  
 C68E\_12 Last 2 years:Respondent experienced frequent fatigue/ex

### Wave 4:

C68A\_15 During the last 2 years: Respondent had frequent swelli  
 C68B\_15 During the last 2 years: Respondent had frequent diffi

C68E\_15

During the last 2 years: Respondent had frequent severe



<b>Sleep</b>
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Wave	Variable	Label	Type
4	R4FALLSLP	r4fallslp: w4 R Trouble falling asleep	Categ
4	S4FALLSLP	s4fallslp: w4 S Trouble falling asleep	Categ
4	R4WAKENT	r4wakent: w4 R Wakes up during night	Categ
4	S4WAKENT	s4wakent: w4 S Wakes up during night	Categ
4	R4WAKEUP	r4wakeup: w4 R Wakes up too early	Categ
4	S4WAKEUP	s4wakeup: w4 S Wakes up too early	Categ
3	R3RESTED	r3rested: w3 R Feels rested when wakes up	Categ
4	R4RESTED	r4rested: w4 R Feels rested when wakes up	Categ
3	S3RESTED	s3rested: w3 S Feels rested when wakes up	Categ
4	S4RESTED	s4rested: w4 S Feels rested when wakes up	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R4FALLSLP	13837	2.45	0.71	1.00	3.00
S4FALLSLP	9180	2.47	0.70	1.00	3.00
R4WAKENT	13834	2.18	0.71	1.00	3.00
S4WAKENT	9177	2.20	0.71	1.00	3.00
R4WAKEUP	13830	2.33	0.76	1.00	3.00
S4WAKEUP	9175	2.35	0.75	1.00	3.00
R3RESTED	14441	1.50	0.68	1.00	3.00
R4RESTED	13829	1.53	0.71	1.00	3.00
S3RESTED	9861	1.49	0.68	1.00	3.00
S4RESTED	9177	1.52	0.71	1.00	3.00

### Categorical Variable Codes

Value	R4FALLSLP
.d:DK	1
.m:Missing	11
.p:Proxy interview, not asked	929
.r:Refuse	1
1.Most of the time	1750
2.Sometimes	4073
3.Rarely or never	8014

Value	S4FALLSLP
.d:DK	1
.m:Missing	1
.p:Proxy interview, not asked	470
.u:Unmar	4847
.v:SP NR	280
1.Most of the time	1107
2.Sometimes	2609
3.Rarely or never	5464

Value	R4WAKENT
.d:DK	2
.m:Missing	11

.p:Proxy interview, not asked		929	
.r:Refuse		3	
1.Most of the time		2454	
2.Sometimes		6455	
3.Rarely or never		4925	
Value-----			S4WAKENT
.d:DK		2	
.m:Missing		1	
.p:Proxy interview, not asked		470	
.r:Refuse		2	
.u:Unmar		4847	
.v:SP NR		280	
1.Most of the time		1566	
2.Sometimes		4237	
3.Rarely or never		3374	
Value-----			R4WAKEUP
.d:DK		2	
.m:Missing		11	
.p:Proxy interview, not asked		929	
.r:Refuse		7	
1.Most of the time		2451	
2.Sometimes		4406	
3.Rarely or never		6973	
Value-----			S4WAKEUP
.d:DK		2	
.m:Missing		1	
.p:Proxy interview, not asked		470	
.r:Refuse		4	
.u:Unmar		4847	
.v:SP NR		280	
1.Most of the time		1574	
2.Sometimes		2852	
3.Rarely or never		4749	
Value-----			R3RESTED
.d:DK		4	6
.m:Missing		1275	12
.p:Proxy interview, not asked			929
.r:Refuse		3	3
1.Most of the time		8847	8248
2.Sometimes		4034	3862
3.Rarely or never		1560	1719
Value-----			S3RESTED
.d:DK		3	4
.m:Missing		726	1
.p:Proxy interview, not asked			470
.r:Refuse		2	
.u:Unmar		4782	4847
.v:SP NR		349	280
1.Most of the time		6084	5508
2.Sometimes		2712	2528
3.Rarely or never		1065	1141

## How Constructed

RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED indicate the frequency with which the respondent experiences sleep issues. RwFALLSLP indicates how often the respondent has trouble falling asleep. RwWAKENT indicates how often the respondent wakes up during the night. RwWAKEUP indicates how often the respondent wakes up too early and is unable to go back to sleep. RwRESTED indicates how often the respondent feels rested when they wake up. These variables are coded as 1.Most of the time, 2.Sometimes, 3.Rarely or never. RwRESTED is available starting in wave 3, while RwFALLSLP, RwWAKENT, and RwWAKEUP are available starting in wave 4. RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwFALLSLP, SwWAKENT, SwWAKEUP, and SwRESTED variables are taken from the Wave 'w' spouse's self-reported RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED variables. In addition to the special missing codes used in RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED; SwFALLSLP, SwWAKENT, SwWAKEUP, and SwRESTED employ the special missing value .u, when the respondent does not report being coupled in

the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### **Cross Wave Differences in MHAS**

Respondents are asked about feeling rested when they wake up starting in wave 3. Respondents are asked about trouble falling asleep, waking up during the night, and waking up too early starting in wave 4.

### **Differences with the RAND HRS/Harmonized HRS**

No differences known.

### **MHAS Variables Used**

Wave 3:

C74\_12                      Respondent's frequency of feeling well rested in the mo

Wave 4:

C74A\_15                    Respondent's frequency having trouble falling asleep

C74B\_15                    Respondent's frequency having trouble with waking up du

C74C\_15                    Respondent's frequency having trouble with waking up to

C74D\_15                    Respondent's frequency feeling really rested when he/sh

<b>Pain</b>
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Wave	Variable	Label	Type
1	R1PAINFR	r1painfr: w1 R Frequent problems with pain	Categ
2	R2PAINFR	r2painfr: w2 R Frequent problems with pain	Categ
3	R3PAINFR	r3painfr: w3 R Frequent problems with pain	Categ
4	R4PAINFR	r4painfr: w4 R Frequent problems with pain	Categ
1	S1PAINFR	s1painfr: w1 S Frequent problems with pain	Categ
2	S2PAINFR	s2painfr: w2 S Frequent problems with pain	Categ
3	S3PAINFR	s3painfr: w3 S Frequent problems with pain	Categ
4	S4PAINFR	s4painfr: w4 S Frequent problems with pain	Categ
1	R1PAINLV	r1painlv: w1 R Usual level of pain	Categ
2	R2PAINLV	r2painlv: w2 R Usual level of pain	Categ
3	R3PAINLV	r3painlv: w3 R Usual level of pain	Categ
4	R4PAINLV	r4painlv: w4 R Usual level of pain	Categ
1	S1PAINLV	s1painlv: w1 S Usual level of pain	Categ
2	S2PAINLV	s2painlv: w2 S Usual level of pain	Categ
3	S3PAINLV	s3painlv: w3 S Usual level of pain	Categ
4	S4PAINLV	s4painlv: w4 S Usual level of pain	Categ
1	R1PAINA	r1paina: w1 R Pain interferes with normal activities	Categ
2	R2PAINA	r2paina: w2 R Pain interferes with normal activities	Categ
3	R3PAINA	r3paina: w3 R Pain interferes with normal activities	Categ
4	R4PAINA	r4paina: w4 R Pain interferes with normal activities	Categ
1	S1PAINA	s1paina: w1 S Pain interferes with normal activities	Categ
2	S2PAINA	s2paina: w2 S Pain interferes with normal activities	Categ
3	S3PAINA	s3paina: w3 S Pain interferes with normal activities	Categ
4	S4PAINA	s4paina: w4 S Pain interferes with normal activities	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PAINFR	14136	0.41	0.49	0.00	1.00
R2PAINFR	12523	0.39	0.49	0.00	1.00
R3PAINFR	14443	0.38	0.49	0.00	1.00
R4PAINFR	13846	0.38	0.49	0.00	1.00
S1PAINFR	9973	0.40	0.49	0.00	1.00
S2PAINFR	8740	0.38	0.49	0.00	1.00
S3PAINFR	9861	0.37	0.48	0.00	1.00
S4PAINFR	9180	0.38	0.48	0.00	1.00
R1PAINLV	14124	0.80	1.07	0.00	3.00
R2PAINLV	12522	0.77	1.07	0.00	3.00
R3PAINLV	14441	0.73	1.04	0.00	3.00
R4PAINLV	13846	0.74	1.04	0.00	3.00
S1PAINLV	9964	0.78	1.07	0.00	3.00
S2PAINLV	8739	0.74	1.06	0.00	3.00
S3PAINLV	9859	0.70	1.02	0.00	3.00
S4PAINLV	9180	0.71	1.02	0.00	3.00
R1PAINA	5819	0.47	0.50	0.00	1.00
R2PAINA	4926	0.50	0.50	0.00	1.00
R3PAINA	5504	0.48	0.50	0.00	1.00
R4PAINA	5313	0.48	0.50	0.00	1.00
S1PAINA	3994	0.47	0.50	0.00	1.00
S2PAINA	3331	0.49	0.50	0.00	1.00
S3PAINA	3675	0.46	0.50	0.00	1.00
S4PAINA	3445	0.47	0.50	0.00	1.00

## Categorical Variable Codes

Value-----	R1PAINFR	R2PAINFR	R3PAINFR	R4PAINFR
.d:DK	7	3	1	1
.m:Missing	4			2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	7		4	1
0.no	8298	7594	8935	8532
1.yes	5838	4929	5508	5314

Value-----	S1PAINFR	S2PAINFR	S3PAINFR	S4PAINFR
.d:DK	6	3	1	1
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	6		4	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	5966	5406	6182	5735
1.yes	4007	3334	3679	3445

Value-----	R1PAINLV	R2PAINLV	R3PAINLV	R4PAINLV
.d:DK	13	3	2	1
.m:Missing	4			2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	13	1	5	1
0.No pain	8298	7594	8935	8532
1.Mild	1910	1656	1837	1731
2.Moderate	2371	1859	2340	2297
3.Severe	1545	1413	1329	1286

Value-----	S1PAINLV	S2PAINLV	S3PAINLV	S4PAINLV
.d:DK	11	3	2	1
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	10	1	5	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No pain	5966	5406	6182	5735
1.Mild	1320	1126	1281	1164
2.Moderate	1611	1277	1537	1496
3.Severe	1067	930	859	785

Value-----	R1PAINA	R2PAINA	R3PAINA	R4PAINA
.d:DK	16	5	3	1
.m:Missing	4			2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	17	1	6	2
.x:does not have condition	8298	7594	8935	8532
0.no	3071	2474	2875	2765
1.yes	2748	2452	2629	2548

Value-----	S1PAINA	S2PAINA	S3PAINA	S4PAINA
.d:DK	12	5	3	1
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	13	1	6	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have condition	5966	5406	6182	5735
0.no	2119	1703	1977	1833
1.yes	1875	1628	1698	1612

## How Constructed

RwPAINFR indicates whether the respondent suffers from pain. RwPAINFR is coded as 0.No, and 1.Yes. RwPAINLV indicates the respondent's pain level the majority of the time. RwPAINLV is coded as 0.No pain, 1.Mild, 2.Moderate, 3.Severe. If the respondent does not suffer from pain, then RwPAINLV is assigned a value of 0. RwPAINA indicates whether the respondent's pain interferes with usual activities such as household chores or their job. RwPAINFR, RwPAINLV, and RwPAINA are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwPAINFR, SwPAINLV, and SwPAINA variables are taken from the Wave 'w' spouse's self-reported RwpAINFR, RwpAINLV, and RwpAINA variables. In addition to the special missing codes used in RwpAINFR, RwpAINLV, and RwpAINA; SwPAINFR, SwPAINLV, and SwPAINA employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Please note that the HRS asks whether the respondent is "often troubled with pain", while the MHAS asks whether the respondent "suffers from pain". Despite these differences in question wording, these variables have been constructed to be as comparable as possible.

### MHAS Variables Used

#### Wave 1:

C48	pain
C49	pain type
C50	pain limits activities

#### Wave 2:

C45	often suffer from physical pain
C46	suffer pain a majority of the time
C47	condition limits your normal activities

#### Wave 3:

C45_12	Respondent suffers from pain
C46_12	Report respondent's pain level
C47_12	Pain limits respondent's daily activities

#### Wave 4:

C45_15	Does respondent suffer from pain
C46_15	Respondent's pain level
C47_15	Does pain limits respondent's daily activities

<b>Menopause</b>
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Wave	Variable	Label	Type
4	R4HYSTERE	r4hystere: w4 R Ever had hysterectomy	Categ
4	S4HYSTERE	s4hystere: w4 S Ever had hysterectomy	Categ
4	R4LSTMNSPD	r4lstmnspd: w4 R Age last menstrual period	Cont
4	S4LSTMNSPD	s4lstmnspd: w4 S Age last menstrual period	Cont
4	R4FLSTMNSPD	r4flstmnspd: w4 R Flag age last menstrual period	Categ
4	S4FLSTMNSPD	s4flstmnspd: w4 S Flag age last menstrual period	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R4HYSTERE	8106	0.21	0.40	0.00	1.00
S4HYSTERE	4623	0.21	0.41	0.00	1.00
R4LSTMNSPD	7434	46.88	6.69	4.00	99.00
S4LSTMNSPD	4120	46.85	6.64	4.00	99.00
R4FLSTMNSPD	7434	0.01	0.12	0.00	1.00
S4FLSTMNSPD	4120	0.01	0.09	0.00	1.00

### Categorical Variable Codes

Value	R4HYSTERE
.d:DK	11
.g:not asked-gender	9613
.m:Missing	2
.p:Proxy interview, not asked	515
.r:Refuse	3
0.no	6439
1.yes	1667

Value	S4HYSTERE
.d:DK	8
.g:not asked-gender	4944
.p:Proxy interview, not asked	193
.r:Refuse	2
.u:Unmar	4845
.v:SP NR	164
0.no	3651
1.yes	972

Value	R4FLSTMNSPD
.d:DK	40
.g:not asked-gender	9613
.m:Missing	2
.o:older than 55	21
.p:Proxy interview, not asked	515
.r:Refuse	13
.x:still menstruating	527
.y:younger than 45	85
0.Reported value	7329
1.Estimated value	105

Value	S4FLSTMNSPD
.d:DK	15
.g:not asked-gender	4944
.o:older than 55	6
.p:Proxy interview, not asked	193

.r:Refuse	8
.u:Unmar	4845
.v:SP NR	164
.x:still menstruating	451
.y:younger than 45	33
0.Reported value	4083
1.Estimated value	37

## How Constructed

RwHYSTERE indicates whether the respondent has ever had a hysterectomy. RwHYSTERE is coded as 0.No, and 1.Yes. RwHYSTERE is available starting in wave 4. In RwHYSTERE, respondents who are men are assigned special missing .g. Proxy respondents are not asked about a hysterectomy and are assigned special missing .p. Don't know, refused, or other missing responses of this variable is assigned special missing codes .d, .r, and .m, respectively. RwHYSTERE is set to plain missing (.) for respondents who did not participate in the current wave.

RwLSTMNSPD indicates the respondent's age at their last menstrual period. Respondents who are women are asked how old they were when they stopped menstruating, and if they answer don't know or refuse, are then asked if they were less than 45 years old, about 50 years old, or more than 55 years old. RwLSTMNSPD takes the value reported by the respondent if available, and is assigned a value of 50, if they did not answer the first question and respond to the second question that they were about 50 years old. RwFLSTMNSPD is a flag variable indicating whether the value of RwLSTMNSPD was reported, in which case RwFLSTMNSPD is assigned a value of 0, or if RwLSTMNSPD was set to 50 because the respondent reported being about 50 years old in the second question, in which case RwFLSTMNSPD is assigned a value of 1. If the respondent reported that they were less than 45 years old, then RwLSTMNSPD and RwFLSTMNSPD are assigned special missing .y. If the respondent reported that they were older than 55 years old, then RwLSTMNSPD and RwFLSTMNSPD are assigned special missing .o. If the respondent voluntarily reports she still menstruates, RwLSTMNSPD and RwFLSTMNSPD are set to special missing value .x. RwLSTMNSPD and RwFLSTMNSPD are available starting in wave 4. Values of RwLSTMNSPD and RwFLSTMNSPD are carried forward in future waves. In RwLSTMNSPD and RwFLSTMNSPD, respondents who are men are assigned special missing .g. Proxy respondents are not asked about the age at their last menstrual period and are assigned special missing .p. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. RwLSTMNSPD and RwFLSTMNSPD are set to plain missing (.) for respondents who did not participate in the current wave.

SwHYSTERE, SwLSTMNSPD, and SwFLSTMNSPD are variables are taken from the Wave 'w' spouse's RwHYSTERE, RwLSTMNSPD, and RwFLSTMNSPD variables. In addition to the special missing codes used in RwHYSTERE, RwLSTMNSPD, and RwFLSTMNSPD; SwHYSTERE, SwLSTMNSPD, and SwFLSTMNSPD employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents who are women are asked whether they have had a hysterectomy and their age when they stopped menstruating starting in wave 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS asks whether the respondent had a hysterectomy and the age of their last period starting in wave 9, while the MHAS asks the same questions starting in wave 4. Additionally, the HRS asks what stage of menopause the respondent thinks they are in, recorded in RwmENOPE in the Harmonized HRS.

## MHAS Variables Used

Wave 4:

C48I_15	In the last 2 years: Respondent had a mammogram/x-ray
C48K1_15	Was respondent...
C48K_15	Respondent's age when she stopped menstruating



<b>BMI</b>
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Wave	Variable	Label	Type
1	R1BMI	r1bmi: w1 R Body Mass Index=kg/m2	Cont
2	R2BMI	r2bmi: w2 R Body Mass Index=kg/m2	Cont
3	R3BMI	r3bmi: w3 R Body Mass Index=kg/m2	Cont
4	R4BMI	r4bmi: w4 R Body Mass Index=kg/m2	Cont
1	S1BMI	s1bmi: w1 S Body Mass Index=kg/m2	Cont
2	S2BMI	s2bmi: w2 S Body Mass Index=kg/m2	Cont
3	S3BMI	s3bmi: w3 S Body Mass Index=kg/m2	Cont
4	S4BMI	s4bmi: w4 S Body Mass Index=kg/m2	Cont
1	R1WEIGHT	r1weight: w1 R Weight in kilograms	Cont
2	R2WEIGHT	r2weight: w2 R Weight in kilograms	Cont
3	R3WEIGHT	r3weight: w3 R Weight in kilograms	Cont
4	R4WEIGHT	r4weight: w4 R Weight in kilograms	Cont
1	S1WEIGHT	s1weight: w1 S Weight in kilograms	Cont
2	S2WEIGHT	s2weight: w2 S Weight in kilograms	Cont
3	S3WEIGHT	s3weight: w3 S Weight in kilograms	Cont
4	S4WEIGHT	s4weight: w4 S Weight in kilograms	Cont
1	R1HEIGHT	r1height: w1 R Height in meters	Cont
2	R2HEIGHT	r2height: w2 R Height in meters	Cont
3	R3HEIGHT	r3height: w3 R Height in meters	Cont
4	R4HEIGHT	r4height: w4 R Height in meters	Cont
1	S1HEIGHT	s1height: w1 S Height in meters	Cont
2	S2HEIGHT	s2height: w2 S Height in meters	Cont
3	S3HEIGHT	s3height: w3 S Height in meters	Cont
4	S4HEIGHT	s4height: w4 S Height in meters	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1BMI	11361	27.27	5.15	10.49	99.00
R2BMI	9431	27.51	5.42	10.12	109.28
R3BMI	13831	27.49	5.01	12.49	70.25
R4BMI	12813	27.57	5.10	11.20	73.87
S1BMI	8174	27.45	5.14	10.49	99.00
S2BMI	6813	27.67	5.36	10.12	109.28
S3BMI	9505	27.71	4.89	12.49	70.25
S4BMI	8569	27.81	4.95	11.20	73.87
R1WEIGHT	13566	69.84	14.07	30.00	180.00
R2WEIGHT	12134	69.72	14.16	20.00	176.00
R3WEIGHT	14998	69.90	14.01	30.00	190.00
R4WEIGHT	14078	69.69	14.25	30.00	187.00
S1WEIGHT	9646	71.28	13.96	30.00	180.00
S2WEIGHT	8608	71.08	13.94	20.00	176.00
S3WEIGHT	10207	71.47	13.79	30.00	190.00
S4WEIGHT	9321	71.34	13.93	30.00	187.00
R1HEIGHT	11736	1.61	0.10	1.00	2.00
R2HEIGHT	9712	1.61	0.10	1.00	2.00
R3HEIGHT	14084	1.60	0.10	1.00	2.00
R4HEIGHT	13064	1.60	0.10	1.00	1.99
S1HEIGHT	8411	1.62	0.10	1.00	2.00
S2HEIGHT	7004	1.62	0.10	1.00	2.00
S3HEIGHT	9639	1.61	0.10	1.07	2.00
S4HEIGHT	8703	1.61	0.10	1.00	1.99

## How Constructed

RwHEIGHT, RwWEIGHT, and RwBMI are the respondent's self-reported height, weight, and body mass index, respectively.

Height is given in meters, weight in kilograms, and BMI is weight divided by the square of height. A special missing code .i is used for RwHEIGHT when the respondent reports a height less than 90cm or if an invalid code is selected (either 9, 915, 949, 990, or 992).

SwHEIGHT, SwWEIGHT, and SwBMI are the measures of the respondent's spouse and are taken directly from the spouse's RwHEIGHT, RwWEIGHT, and RwBMI, respectively. SwHEIGHT, SwWEIGHT, and SwBMI employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:	
C71	weight
C72	height
Wave 2:	
C66	weight
C67	height without shoes
Wave 3:	
C66_12	Respondent's current weight in kilos
C67_1_12	Respondent's height without shoes_Meters
C67_2_12	Respondent's height without shoes_Centimeters
Wave 4:	
C66_15	Respondent's current weight in kilos
C67_1_15	Respondent's height without shoes: Meters
C67_2_15	Respondent's height without shoes: Centimeters

## Health Behaviors: Physical Activity or Exercise

Wave	Variable	Label	Type
1	R1VIGACT	r1vigact: w1 R Wtr vigorous phys act 3+/wk	Categ
2	R2VIGACT	r2vigact: w2 R Wtr vigorous phys act 3+/wk	Categ
3	R3VIGACT	r3vigact: w3 R Wtr vigorous phys act 3+/wk	Categ
4	R4VIGACT	r4vigact: w4 R Wtr vigorous phys act 3+/wk	Categ
1	S1VIGACT	s1vigact: w1 S Wtr vigorous phys act 3+/wk	Categ
2	S2VIGACT	s2vigact: w2 S Wtr vigorous phys act 3+/wk	Categ
3	S3VIGACT	s3vigact: w3 S Wtr vigorous phys act 3+/wk	Categ
4	S4VIGACT	s4vigact: w4 S Wtr vigorous phys act 3+/wk	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1VIGACT	14036	0.34	0.47	0.00	1.00
R2VIGACT	12520	0.36	0.48	0.00	1.00
R3VIGACT	14442	0.39	0.49	0.00	1.00
R4VIGACT	13842	0.38	0.49	0.00	1.00
S1VIGACT	9889	0.36	0.48	0.00	1.00
S2VIGACT	8737	0.38	0.49	0.00	1.00
S3VIGACT	9862	0.42	0.49	0.00	1.00
S4VIGACT	9180	0.41	0.49	0.00	1.00

### Categorical Variable Codes

Value-----	R1VIGACT	R2VIGACT	R3VIGACT	R4VIGACT
.d:DK	42	4	3	1
.m:Missing	4			6
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	72	2	3	1
0.No	9268	7989	8767	8526
1.Yes	4768	4531	5675	5316

Value-----	S1VIGACT	S2VIGACT	S3VIGACT	S4VIGACT
.d:DK	39	4	1	1
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	57	2	3	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6281	5380	5724	5397
1.Yes	3608	3357	4138	3783

### How Constructed

RwVIGACT indicates whether the respondent has participated in hard physical work on average during the last two years, three or more times a week; including various activities such as sports, heavy household chores, or other physical work. A code of 1 indicates that the respondent did participate in vigorous activity three or more times a week. A code of 0 indicates that the respondent did not participate in vigorous activity three or more times a week. When respondents "don't know", refuse to answer, or answers are missing, RwVIGACT is assigned special missing values .d, .r, .m, respectively. Variables are set to special missing value .p for proxy interviews and to plain missing (.) for respondents who did not respond to the current wave.

SwVIGACT indicates whether the respondent's spouse has participated in hard physical work on average during the last two years three or more times a week and is taken directly from the spouse's RwVIGACT. SwVIGACT employs the special missing value .u, if the respondent is not designated as coupled in the current wave and assumed to be single a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

The MHAS, only asks one question regarding physical activity. In the HRS, from Wave 3 (1996) to Wave 6 (2002), the HRS only asks about vigorous exercise, but does not collect information about moderate or light physical activities. Starting from Wave 7 (2004), the HRS questionnaire features a series of three questions, one concerning vigorous, one concerning moderate, and one concerning mild/light physical activity.

### MHAS Variables Used

Wave 1:	
C53	done hard physical work
Wave 2:	
C50	does physical work regularly
Wave 3:	
C50B_12	Last 2 years: Respondent ... exercise or hard physical wor
Wave 4:	
C50B_15	In the last 2 years: Respondent exercised or did hard p

<b>Health Behaviors: Drinking</b>
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Wave	Variable	Label	Type
1	R1DRINK	r1drink: w1 R Ever drinks any alcohol	Categ
2	R2DRINK	r2drink: w2 R Ever drinks any alcohol	Categ
3	R3DRINK	r3drink: w3 R Ever drinks any alcohol	Categ
4	R4DRINK	r4drink: w4 R Ever drinks any alcohol	Categ
1	S1DRINK	s1drink: w1 S Ever drinks any alcohol	Categ
2	S2DRINK	s2drink: w2 S Ever drinks any alcohol	Categ
3	S3DRINK	s3drink: w3 S Ever drinks any alcohol	Categ
4	S4DRINK	s4drink: w4 S Ever drinks any alcohol	Categ
1	R1DRINKD	r1drinkd: w1 R Number of days/week drinks	Cont
2	R2DRINKD	r2drinkd: w2 R Number of days/week drinks	Cont
3	R3DRINKD	r3drinkd: w3 R Number of days/week drinks	Cont
4	R4DRINKD	r4drinkd: w4 R Number of days/week drinks	Cont
1	S1DRINKD	s1drinkd: w1 S Number of days/week drinks	Cont
2	S2DRINKD	s2drinkd: w2 S Number of days/week drinks	Cont
3	S3DRINKD	s3drinkd: w3 S Number of days/week drinks	Cont
4	S4DRINKD	s4drinkd: w4 S Number of days/week drinks	Cont
1	R1DRINKN	r1drinkn: w1 R Number of drinks/day when drinks	Cont
2	R2DRINKN	r2drinkn: w2 R Number of drinks/day when drinks	Cont
3	R3DRINKN	r3drinkn: w3 R Number of drinks/day when drinks	Cont
4	R4DRINKN	r4drinkn: w4 R Number of drinks/day when drinks	Cont
1	S1DRINKN	s1drinkn: w1 S Number of drinks/day when drinks	Cont
2	S2DRINKN	s2drinkn: w2 S Number of drinks/day when drinks	Cont
3	S3DRINKN	s3drinkn: w3 S Number of drinks/day when drinks	Cont
4	S4DRINKN	s4drinkn: w4 S Number of drinks/day when drinks	Cont
1	R1DRINKB	r1drinkb: w1 R Ever binge drinks	Categ
2	R2DRINKB	r2drinkb: w2 R Ever binge drinks	Categ
3	R3DRINKB	r3drinkb: w3 R Ever binge drinks	Categ
4	R4DRINKB	r4drinkb: w4 R Ever binge drinks	Categ
1	S1DRINKB	s1drinkb: w1 S Ever binge drinks	Categ
2	S2DRINKB	s2drinkb: w2 S Ever binge drinks	Categ
3	S3DRINKB	s3drinkb: w3 S Ever binge drinks	Categ
4	S4DRINKB	s4drinkb: w4 S Ever binge drinks	Categ
1	R1BINGED	r1binged: w1 R Number of days binge drinks	Cont
2	R2BINGED	r2binged: w2 R Number of days binge drinks	Cont
3	R3BINGED	r3binged: w3 R Number of days binge drinks	Cont
4	R4BINGED	r4binged: w4 R Number of days binge drinks	Cont
1	S1BINGED	s1binged: w1 S Number of days binge drinks	Cont
2	S2BINGED	s2binged: w2 S Number of days binge drinks	Cont
3	S3BINGED	s3binged: w3 S Number of days binge drinks	Cont
4	S4BINGED	s4binged: w4 S Number of days binge drinks	Cont
1	R1DRINKCUT	r1drinkcut: w1 R Feels should cut down on drinking	Categ
2	R2DRINKCUT	r2drinkcut: w2 R Feels should cut down on drinking	Categ
3	R3DRINKCUT	r3drinkcut: w3 R Feels should cut down on drinking	Categ
4	R4DRINKCUT	r4drinkcut: w4 R Feels should cut down on drinking	Categ
1	S1DRINKCUT	s1drinkcut: w1 S Feels should cut down on drinking	Categ
2	S2DRINKCUT	s2drinkcut: w2 S Feels should cut down on drinking	Categ
3	S3DRINKCUT	s3drinkcut: w3 S Feels should cut down on drinking	Categ
4	S4DRINKCUT	s4drinkcut: w4 S Feels should cut down on drinking	Categ
1	R1DRINKCR	r1drinkcr: w1 R Others criticize your drinking	Categ
2	R2DRINKCR	r2drinkcr: w2 R Others criticize your drinking	Categ
3	R3DRINKCR	r3drinkcr: w3 R Others criticize your drinking	Categ

4	R4DRINKCR	r4drinkcr: w4 R Others criticize your drinking	Categ
1	S1DRINKCR	s1drinkcr: w1 S Others criticize your drinking	Categ
2	S2DRINKCR	s2drinkcr: w2 S Others criticize your drinking	Categ
3	S3DRINKCR	s3drinkcr: w3 S Others criticize your drinking	Categ
4	S4DRINKCR	s4drinkcr: w4 S Others criticize your drinking	Categ
1	R1DRINKBD	r1drinkbd: w1 R Feels bad about drinking	Categ
2	R2DRINKBD	r2drinkbd: w2 R Feels bad about drinking	Categ
3	R3DRINKBD	r3drinkbd: w3 R Feels bad about drinking	Categ
4	R4DRINKBD	r4drinkbd: w4 R Feels bad about drinking	Categ
1	S1DRINKBD	s1drinkbd: w1 S Feels bad about drinking	Categ
2	S2DRINKBD	s2drinkbd: w2 S Feels bad about drinking	Categ
3	S3DRINKBD	s3drinkbd: w3 S Feels bad about drinking	Categ
4	S4DRINKBD	s4drinkbd: w4 S Feels bad about drinking	Categ
1	R1DRINKNR	r1drinknr: w1 R Takes drink for nerve in am	Categ
2	R2DRINKNR	r2drinknr: w2 R Takes drink for nerve in am	Categ
3	R3DRINKNR	r3drinknr: w3 R Takes drink for nerve in am	Categ
4	R4DRINKNR	r4drinknr: w4 R Takes drink for nerve in am	Categ
1	S1DRINKNR	s1drinknr: w1 S Takes drink for nerve in am	Categ
2	S2DRINKNR	s2drinknr: w2 S Takes drink for nerve in am	Categ
3	S3DRINKNR	s3drinknr: w3 S Takes drink for nerve in am	Categ
4	S4DRINKNR	s4drinknr: w4 S Takes drink for nerve in am	Categ
1	R1CAGE	r1cage: w1 R Cage summary score	Cont
2	R2CAGE	r2cage: w2 R Cage summary score	Cont
3	R3CAGE	r3cage: w3 R Cage summary score	Cont
4	R4CAGE	r4cage: w4 R Cage summary score	Cont
1	S1CAGE	s1cage: w1 S Cage summary score	Cont
2	S2CAGE	s2cage: w2 S Cage summary score	Cont
3	S3CAGE	s3cage: w3 S Cage summary score	Cont
4	S4CAGE	s4cage: w4 S Cage summary score	Cont
1	R1CAGEM	r1cagem: w1 R Cage missings	Cont
2	R2CAGEM	r2cagem: w2 R Cage missings	Cont
3	R3CAGEM	r3cagem: w3 R Cage missings	Cont
4	R4CAGEM	r4cagem: w4 R Cage missings	Cont
1	S1CAGEM	s1cagem: w1 S Cage missings	Cont
2	S2CAGEM	s2cagem: w2 S Cage missings	Cont
3	S3CAGEM	s3cagem: w3 S Cage missings	Cont
4	S4CAGEM	s4cagem: w4 S Cage missings	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DRINK	15175	0.31	0.46	0.00	1.00
R2DRINK	13700	0.26	0.44	0.00	1.00
R3DRINK	15719	0.23	0.42	0.00	1.00
R4DRINK	14770	0.23	0.42	0.00	1.00
S1DRINK	10641	0.34	0.47	0.00	1.00
S2DRINK	9561	0.28	0.45	0.00	1.00
S3DRINK	10588	0.26	0.44	0.00	1.00
S4DRINK	9650	0.25	0.44	0.00	1.00
R1DRINKD	15102	0.35	1.17	0.00	7.00
R2DRINKD	13657	0.34	1.13	0.00	7.00
R3DRINKD	15648	0.35	1.09	0.00	7.00
R4DRINKD	14713	0.33	1.05	0.00	7.00
S1DRINKD	10584	0.40	1.24	0.00	7.00
S2DRINKD	9533	0.38	1.17	0.00	7.00
S3DRINKD	10533	0.39	1.14	0.00	7.00

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S4DRINKD	9607	0.38	1.10	0.00	7.00
R1DRINKN	15060	0.67	2.50	0.00	70.00
R2DRINKN	13615	0.65	2.28	0.00	30.00
R3DRINKN	15663	0.65	2.56	0.00	70.00
R4DRINKN	14749	0.63	2.38	0.00	72.00
S1DRINKN	10549	0.78	2.71	0.00	70.00
S2DRINKN	9501	0.74	2.42	0.00	30.00
S3DRINKN	10543	0.75	2.79	0.00	70.00
S4DRINKN	9638	0.74	2.55	0.00	72.00
R1DRINKB	15079	0.08	0.28	0.00	1.00
R2DRINKB	13638	0.08	0.27	0.00	1.00
R3DRINKB	15690	0.08	0.28	0.00	1.00
R4DRINKB	14761	0.08	0.27	0.00	1.00
S1DRINKB	10564	0.09	0.29	0.00	1.00
S2DRINKB	9511	0.09	0.29	0.00	1.00
S3DRINKB	10563	0.10	0.29	0.00	1.00
S4DRINKB	9644	0.09	0.29	0.00	1.00
R1BINGED	15079	0.91	6.43	0.00	87.00
R2BINGED	13638	0.71	5.09	0.00	87.00
R3BINGED	15690	0.48	3.65	0.00	87.00
R4BINGED	14761	0.49	3.82	0.00	87.00
S1BINGED	10564	0.99	6.47	0.00	87.00
S2BINGED	9511	0.77	5.10	0.00	87.00
S3BINGED	10563	0.54	3.90	0.00	87.00
S4BINGED	9644	0.55	3.81	0.00	87.00
R1DRINKCUT	6087	0.37	0.48	0.00	1.00
R2DRINKCUT	2300	0.44	0.50	0.00	1.00
R3DRINKCUT	3113	0.46	0.50	0.00	1.00
R4DRINKCUT	3131	0.46	0.50	0.00	1.00
S1DRINKCUT	4510	0.38	0.48	0.00	1.00
S2DRINKCUT	1740	0.44	0.50	0.00	1.00
S3DRINKCUT	2362	0.48	0.50	0.00	1.00
S4DRINKCUT	2283	0.48	0.50	0.00	1.00
R1DRINKCR	6085	0.24	0.42	0.00	1.00
R2DRINKCR	2294	0.21	0.41	0.00	1.00
R3DRINKCR	3112	0.20	0.40	0.00	1.00
R4DRINKCR	3132	0.21	0.41	0.00	1.00
S1DRINKCR	4508	0.25	0.43	0.00	1.00
S2DRINKCR	1735	0.21	0.41	0.00	1.00
S3DRINKCR	2360	0.21	0.41	0.00	1.00
S4DRINKCR	2283	0.22	0.41	0.00	1.00
R1DRINKBD	6084	0.26	0.44	0.00	1.00
R2DRINKBD	2297	0.25	0.43	0.00	1.00
R3DRINKBD	3115	0.23	0.42	0.00	1.00
R4DRINKBD	3133	0.25	0.43	0.00	1.00
S1DRINKBD	4507	0.26	0.44	0.00	1.00
S2DRINKBD	1737	0.25	0.43	0.00	1.00
S3DRINKBD	2362	0.25	0.43	0.00	1.00
S4DRINKBD	2285	0.27	0.44	0.00	1.00
R1DRINKNR	6083	0.18	0.39	0.00	1.00
R2DRINKNR	2301	0.15	0.36	0.00	1.00
R3DRINKNR	3116	0.12	0.33	0.00	1.00
R4DRINKNR	3134	0.12	0.33	0.00	1.00
S1DRINKNR	4506	0.19	0.39	0.00	1.00
S2DRINKNR	1741	0.15	0.36	0.00	1.00

S3DRINKNR	2363	0.13	0.33	0.00	1.00
S4DRINKNR	2284	0.13	0.33	0.00	1.00
R1CAGE	6100	1.04	1.31	0.00	4.00
R2CAGE	2304	1.04	1.19	0.00	4.00
R3CAGE	3118	1.01	1.16	0.00	4.00
R4CAGE	3135	1.04	1.18	0.00	4.00
S1CAGE	4519	1.07	1.33	0.00	4.00
S2CAGE	1744	1.05	1.18	0.00	4.00
S3CAGE	2364	1.06	1.17	0.00	4.00
S4CAGE	2285	1.09	1.20	0.00	4.00
R1CAGEM	15186	2.40	1.96	0.00	4.00
R2CAGEM	13704	3.33	1.49	0.00	4.00
R3CAGEM	15723	3.21	1.59	0.00	4.00
R4CAGEM	14779	3.15	1.63	0.00	4.00
S1CAGEM	10648	2.31	1.97	0.00	4.00
S2CAGEM	9564	3.27	1.54	0.00	4.00
S3CAGEM	10592	3.11	1.66	0.00	4.00
S4CAGEM	9652	3.05	1.70	0.00	4.00

### Categorical Variable Codes

Value-----	R1DRINK	R2DRINK	R3DRINK	R4DRINK
.d:DK	3	3	2	2
.m:Missing	4			6
.r:Refuse	4	1	2	1
0.no	10441	10159	12147	11382
1.yes	4734	3541	3572	3388

Value-----	S1DRINK	S2DRINK	S3DRINK	S4DRINK
.d:DK	2	3	2	1
.m:Missing	3			1
.r:Refuse	2		2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	7032	6863	7887	7197
1.yes	3609	2698	2701	2453

Value-----	R1DRINKB	R2DRINKB	R3DRINKB	R4DRINKB
.d:DK	73	58	28	9
.m:Missing	4			6
.r:Refuse	30	8	5	3
0.no	13824	12518	14378	13551
1.yes	1255	1120	1312	1210

Value-----	S1DRINKB	S2DRINKB	S3DRINKB	S4DRINKB
.d:DK	58	47	25	5
.m:Missing	3			1
.r:Refuse	23	6	4	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	9567	8620	9556	8729
1.yes	997	891	1007	915

Value-----	R1DRINKCUT	R2DRINKCUT	R3DRINKCUT	R4DRINKCUT
.d:DK	55	7	4	4
.m:Missing	4	1		6
.n:does not drink	8455	10378	11506	10831
.p:Proxy interview, not asked	523	1015	1092	804
.r:Refuse	62	3	8	3
0.no	3841	1288	1678	1685
1.yes	2246	1012	1435	1446

Value-----	S1DRINKCUT	S2DRINKCUT	S3DRINKCUT	S4DRINKCUT
.d:DK	44	7	2	3
.m:Missing	3	1		1
.n:does not drink	5678	7102	7588	6944
.p:Proxy interview, not asked	365	712	636	420
.r:Refuse	48	2	4	1
.u:Unmar	4205	4009	4782	4847



.v:SP NR	333	131	349	280
0.no	2806	969	1217	1179
1.yes	1704	771	1145	1104
Value-----	R1DRINKCR	R2DRINKCR	R3DRINKCR	R4DRINKCR
.d:DK	57	9	4	3
.m:Missing	4	2		6
.n:does not drink	8455	10378	11506	10831
.p:Proxy interview, not asked	523	1015	1092	804
.r:Refuse	62	6	9	3
0.no	4650	1817	2494	2481
1.yes	1435	477	618	651
Value-----	S1DRINKCR	S2DRINKCR	S3DRINKCR	S4DRINKCR
.d:DK	48	9	2	3
.m:Missing	3	2		1
.n:does not drink	5678	7102	7588	6944
.p:Proxy interview, not asked	365	712	636	420
.r:Refuse	46	4	6	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	3401	1371	1871	1788
1.yes	1107	364	489	495
Value-----	R1DRINKBD	R2DRINKBD	R3DRINKBD	R4DRINKBD
.d:DK	58	6	2	1
.m:Missing	4	2		6
.n:does not drink	8455	10378	11506	10831
.p:Proxy interview, not asked	523	1015	1092	804
.r:Refuse	62	6	8	4
0.no	4521	1724	2409	2364
1.yes	1563	573	706	769
Value-----	S1DRINKBD	S2DRINKBD	S3DRINKBD	S4DRINKBD
.d:DK	48	6	2	1
.m:Missing	3	2		1
.n:does not drink	5678	7102	7588	6944
.p:Proxy interview, not asked	365	712	636	420
.r:Refuse	47	5	4	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	3325	1302	1780	1679
1.yes	1182	435	582	606
Value-----	R1DRINKNR	R2DRINKNR	R3DRINKNR	R4DRINKNR
.d:DK	55	4	1	1
.m:Missing	4	2		6
.n:does not drink	8455	10378	11506	10831
.p:Proxy interview, not asked	523	1015	1092	804
.r:Refuse	66	4	8	3
0.no	4974	1957	2738	2750
1.yes	1109	344	378	384
Value-----	S1DRINKNR	S2DRINKNR	S3DRINKNR	S4DRINKNR
.d:DK	45	4	1	1
.m:Missing	3	2		1
.n:does not drink	5678	7102	7588	6944
.p:Proxy interview, not asked	365	712	636	420
.r:Refuse	51	3	4	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.no	3644	1483	2063	1992
1.yes	862	258	300	292

## How Constructed

RwDRINK is a yes/no indicator for whether the respondent ever drinks alcoholic beverages, such as beer, wine, liquor, or pulque. A code of 0 indicates that the respondent does not ever have an alcoholic drink. A code of 1 indicates that the respondent does ever have an alcoholic drink. When respondents don't know, refuse to answer, or answers are missing, RwDRINK is assigned special missing values .d, .r, .m, respectively. RwDRINK is set to plain missing (.) for respondents who did not respond to the current wave.

RwDRINKD indicates the number of days per week the respondent drinks. RwDRINKN indicates the number of drinks the respondent has when he/she drinks. A code of 0 was assigned if the respondent reported he/she never has an alcoholic drink (this is if RwDRINK is 0). When respondents don't

know, refuse to answer, or answers are missing, RwdRINKD and RwdRINKN are assigned special missing values .d, .r, .m, respectively. RwdRINKD and RwdRINKN are set to plain missing (.) for respondents who did not respond to the current wave.

RwdRINKB indicates whether the respondent ever binge drinks. RwbINGED indicates the number of days the respondent reports binge drinking in the last 3 months. Binge drinking is determined by the question: "In the last three months, on how many days have you had four or more drinks on one occasion?". If the respondent reports an answer of "no" to this question, reports never drinking, or reports drinking 0 days per week in the last 3 months, then RwdRINKB is coded as 0.No, and RwbINGED is coded as 0. If the respondent reports a number of 1 or greater to this question, then RwdRINKB is coded as 1.Yes and RwbINGED takes the numerical value. If RwbINGED is coded as 87, it indicates that the respondent "drinks 87 days or more". Don't know, refused, or other missing responses of RwdRINKB and RwbINGED are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwdRINKCUT, RwdRINKCR, RwdRINKBD, and RwdRINKNR indicate the respondent's feelings about their drinking habits. RwdRINKCUT indicates whether the respondent has ever felt that they should cut down on their drinking. RwdRINKCR indicates whether people have ever annoyed the respondent by criticizing their drinking. RwdRINKBD indicates whether the respondent has ever felt bad or guilty about drinking. RwdRINKNR indicates whether the respondent has ever taken a drink first thing in the morning to steady their nerves or get rid of a hangover. These variables are coded as 0.No and 1.Yes. RwcAGE is a summary variable for the respondent's feelings about their drinking habits. RwcAGE is equal to RwdRINKCUT + RwdRINKCR + RwdRINKBD + RwdRINKNR. RwcAGEM indicates the number of variables missing in the calculation of RwcAGE. RwcAGE is calculated as long as at least one of the component variables is not missing. RwcAGE and RwcAGEM are calculated only for the waves that ask all 4 component questions. 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 (.) for respondents who did not participate in the current wave.

SwDRINK, SwDRINKD, SwDRINKN, SwDRINKB, SwBINGED, SwDRINKCUT, SwDRINKCR, SwDRINKBD, SwDRINKNR, SwCAGE, and SwCAGEM record the respondent's spouse's drinking behavior and are taken directly from the spouse's RwdRINK, RwdRINKD, RwdRINKN, RwdRINKB, RwbINGED, RwdRINKCUT, RwdRINKCR, RwdRINKBD, RwdRINKNR, RwcAGE, and RwcAGEM variables. In addition to the special missing codes used in RwdRINK, RwdRINKD, RwdRINKN, RwdRINKB, RwbINGED, RwdRINKCUT, RwdRINKCR, RwdRINKBD, RwdRINKNR, RwcAGE, and RwcAGEM; SwDRINK, SwDRINKD, SwDRINKN, SwDRINKB, SwBINGED, SwDRINKCUT, SwDRINKCR, SwDRINKBD, SwDRINKNR, SwCAGE, and SwCAGEM employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the RAND HRS, the variable RwdRINK is constructed using the original HRS question "Do you ever drink any alcoholic beverages, such as beer, wine, or liquor?" It is worth mentioning that in the MHAS they also ask about pulque (alcohol made from fermented cactus sap). Also different to the HRS, when respondents are asked about how many days have they had four or more drinks on one occasion, the maximum allowed is 87 in the MHAS instead of 92 in the HRS.

## MHAS Variables Used

### Wave 1:

C60	drink now
C61	how often drink
C62	how much drink

### Wave 2:

C59A	currently drink alcohol
C59B	days per week drank alcohol in last three months
C59C	number of drinks a day

### Wave 3:

C59A_12	Respondent currently drinks alcohol
C59B_12	Last 3 months: Number of days per week he/she drank alc
C59C_12	Last 3 months: Number of alcoholic beverages per day
C59D_12	Last 3 months: Number of days with >= 4 drinks in one o
C59E_12	Last 2 years: Respondent drank alcohol

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C60_12	Did/Has respondent consider(ed) drinking less
C61_12	Respondent annoyed by criticism about drinking alcohol
C62_12	Has respondent felt bad because h/she drank
C63_12	Does respondent drink alcohol in the morning to calm ne

## Wave 4:

C59A_15	Does respondent currently drinks alcohol
C59B_15	In the last 3 months: Number of days per week he/she dr
C59C_15	In the last 3 months: Number of alcoholic beverages per
C59D_15	In the last 3 months: Number of days with 4 or more dri
C59E_15	In the last 2 years: Did respondent had any alcohol
C60_15	Has respondent considered drinking less
C61_15	Has respondent ever been annoyed by criticism about dri
C62_15	Has respondent feel bad because h/she drank
C63_15	Does respondent drink alcohol in the morning to calm ne

<b>Health Behaviors: Smoking (Cigarettes)</b>
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Wave	Variable	Label	Type
1	R1SMOKEV	r1smokev: w1 R Ever smoked	Categ
2	R2SMOKEV	r2smokev: w2 R Ever smoked	Categ
3	R3SMOKEV	r3smokev: w3 R Ever smoked	Categ
4	R4SMOKEV	r4smokev: w4 R Ever smoked	Categ
1	S1SMOKEV	s1smokev: w1 S Ever smoked	Categ
2	S2SMOKEV	s2smokev: w2 S Ever smoked	Categ
3	S3SMOKEV	s3smokev: w3 S Ever smoked	Categ
4	S4SMOKEV	s4smokev: w4 S Ever smoked	Categ
1	R1SMOKEN	r1smoken: w1 R Smokes now	Categ
2	R2SMOKEN	r2smoken: w2 R Smokes now	Categ
3	R3SMOKEN	r3smoken: w3 R Smokes now	Categ
4	R4SMOKEN	r4smoken: w4 R Smokes now	Categ
1	S1SMOKEN	s1smoken: w1 S Smokes now	Categ
2	S2SMOKEN	s2smoken: w2 S Smokes now	Categ
3	S3SMOKEN	s3smoken: w3 S Smokes now	Categ
4	S4SMOKEN	s4smoken: w4 S Smokes now	Categ
1	R1SMOKEF	r1smokef: w1 R Number of cigarettes/day	Cont
2	R2SMOKEF	r2smokef: w2 R Number of cigarettes/day	Cont
3	R3SMOKEF	r3smokef: w3 R Number of cigarettes/day	Cont
4	R4SMOKEF	r4smokef: w4 R Number of cigarettes/day	Cont
1	S1SMOKEF	s1smokef: w1 S Number of cigarettes/day	Cont
2	S2SMOKEF	s2smokef: w2 S Number of cigarettes/day	Cont
3	S3SMOKEF	s3smokef: w3 S Number of cigarettes/day	Cont
4	S4SMOKEF	s4smokef: w4 S Number of cigarettes/day	Cont
1	R1STRTSMOK	r1strtsmok: w1 R Age started smoking	Cont
2	R2STRTSMOK	r2strtsmok: w2 R Age started smoking	Cont
3	R3STRTSMOK	r3strtsmok: w3 R Age started smoking	Cont
4	R4STRTSMOK	r4strtsmok: w4 R Age started smoking	Cont
1	S1STRTSMOK	s1strtsmok: w1 S Age started smoking	Cont
2	S2STRTSMOK	s2strtsmok: w2 S Age started smoking	Cont
3	S3STRTSMOK	s3strtsmok: w3 S Age started smoking	Cont
4	S4STRTSMOK	s4strtsmok: w4 S Age started smoking	Cont
1	R1QUITSMOK	r1quitsmok: w1 R Age quit smoking	Cont
2	R2QUITSMOK	r2quitsmok: w2 R Age quit smoking	Cont
3	R3QUITSMOK	r3quitsmok: w3 R Age quit smoking	Cont
4	R4QUITSMOK	r4quitsmok: w4 R Age quit smoking	Cont
1	S1QUITSMOK	s1quitsmok: w1 S Age quit smoking	Cont
2	S2QUITSMOK	s2quitsmok: w2 S Age quit smoking	Cont
3	S3QUITSMOK	s3quitsmok: w3 S Age quit smoking	Cont
4	S4QUITSMOK	s4quitsmok: w4 S Age quit smoking	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SMOKEV	15173	0.43	0.50	0.00	1.00
R2SMOKEV	13695	0.41	0.49	0.00	1.00
R3SMOKEV	15718	0.37	0.48	0.00	1.00
R4SMOKEV	14759	0.40	0.49	0.00	1.00
S1SMOKEV	10640	0.44	0.50	0.00	1.00
S2SMOKEV	9558	0.43	0.50	0.00	1.00
S3SMOKEV	10589	0.39	0.49	0.00	1.00
S4SMOKEV	9645	0.42	0.49	0.00	1.00

R1SMOKEN	15169	0.17	0.38	0.00	1.00
R2SMOKEN	13693	0.16	0.37	0.00	1.00
R3SMOKEN	15717	0.12	0.32	0.00	1.00
R4SMOKEN	14759	0.12	0.32	0.00	1.00
S1SMOKEN	10636	0.18	0.39	0.00	1.00
S2SMOKEN	9556	0.17	0.38	0.00	1.00
S3SMOKEN	10588	0.13	0.33	0.00	1.00
S4SMOKEN	9645	0.12	0.33	0.00	1.00
R1SMOKEF	15169	1.57	6.13	0.00	99.00
R2SMOKEF	13693	1.09	4.64	0.00	99.00
R3SMOKEF	15706	0.72	3.38	0.00	100.00
R4SMOKEF	14755	0.65	3.00	0.00	60.00
S1SMOKEF	10636	1.63	6.02	0.00	99.00
S2SMOKEF	9556	1.21	5.05	0.00	99.00
S3SMOKEF	10581	0.75	3.47	0.00	100.00
S4SMOKEF	9642	0.66	3.03	0.00	60.00
R1STRTSMOK	5897	20.63	9.84	9.00	85.00
R2STRTSMOK	6509	20.75	9.82	8.00	85.00
R3STRTSMOK	6922	20.22	8.92	1.00	75.00
R4STRTSMOK	7127	20.34	8.94	1.00	84.00
S1STRTSMOK	4291	19.94	8.90	9.00	77.00
S2STRTSMOK	4761	20.08	9.00	8.00	77.00
S3STRTSMOK	4810	19.44	8.16	1.00	75.00
S4STRTSMOK	4888	19.68	8.26	1.00	75.00
R1QUITSMOK	3319	18.23	13.75	1.00	75.00
R2QUITSMOK	4189	18.35	13.66	1.00	79.00
R3QUITSMOK	4797	23.96	16.61	-4.00	84.00
R4QUITSMOK	5361	37.64	18.52	0.00	99.00
S1QUITSMOK	2383	17.81	13.45	1.00	70.00
S2QUITSMOK	3029	17.91	13.37	1.00	76.00
S3QUITSMOK	3295	24.13	16.36	1.00	81.00
S4QUITSMOK	3653	37.21	17.73	0.00	99.00

### Categorical Variable Codes

Value-----	R1SMOKEV	R2SMOKEV	R3SMOKEV	R4SMOKEV
.d:DK	8	7	4	9
.m:Missing	4			6
.r:Refuse	1	2	1	5
0.No	8652	8047	9957	8911
1.Yes	6521	5648	5761	5848

Value-----	S1SMOKEV	S2SMOKEV	S3SMOKEV	S4SMOKEV
.d:DK	4	5	2	3
.m:Missing	3			1
.r:Refuse	1	1	1	3
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	5906	5427	6482	5628
1.Yes	4734	4131	4107	4017

Value-----	R1SMOKEN	R2SMOKEN	R3SMOKEN	R4SMOKEN
.d:DK	11	1	2	2
.m:Missing	4			6
.p:Proxy interview, not asked		10	2	7
.r:Refuse	2		2	5
0.No	12522	11493	13841	13053
1.Yes	2647	2200	1876	1706

Value-----	S1SMOKEN	S2SMOKEN	S3SMOKEN	S4SMOKEN
.d:DK	7	1	2	2
.m:Missing	3			1
.p:Proxy interview, not asked		7		1

.r:Refuse	2	2	3
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.No	8679	7914	9248
1.Yes	1957	1642	1340
			1184

## How Constructed

RwSMOKEV indicates whether the respondent ever smoked cigarettes. A code of 0 indicates that the respondent has never smoked. A code of 1 indicates that the respondent has ever smoked. When respondents don't know, refuse to answer, or answers are missing, RwSMOKEV is assigned special missing values .d, .r, .m, respectively. RwSMOKEV is set to plain missing (.) for respondents who did not respond to the current wave.

RwSMOKEN indicates whether the respondent reports currently smoking. This question is only asked if the respondent reports having ever smoked. If the respondent reports he/she has never smoked, RwSMOKEN is assigned a code of 0. A code of 0 indicates that the respondent does not currently smoke. A code of 1 indicates that the respondent currently smokes. When respondents don't know, refuse to answer, or answers are missing, RwSMOKEN is assigned special missing values .d, .r, .m, respectively. RwSMOKEN is set to plain missing (.) for respondents who did not respond to the current wave.

RwSMOKEF indicates the number of cigarettes the respondent usually smokes in a day. In waves 1 and 2, respondents can report the number of cigarettes or the number of packs, and these responses are then converted to the number of cigarettes in the MHAS data. Starting in wave 3, respondents can report the number of cigarettes or the number of packs which is converted to cigarettes for RwSMOKEF by multiplying the number of packs by 20. This question is only asked if the respondent reports having ever smoked and currently smoking. If the respondent reports he/she has never smoked or does not currently smoke, RwSMOKEF is assigned a code of 0. When respondents don't know, refuse to answer, or answers are missing, RwSMOKEF is assigned special missing values .d, .r, .m, respectively. RwSMOKEF is set to plain missing (.) for respondents who did not respond to the current wave.

RwSTRSMOK indicates the age at which the respondent started smoking. In waves 1 and 2, respondents are asked the year or age they started smoking, and these responses are then converted to the age in the MHAS data. In wave 3, respondents can report the age at which they started smoking, or the year in which they started smoking. Starting in wave 4, respondents can report the age at which they started smoking, the number of years ago they started smoking, or the year in which they started smoking. If the respondent reports the number of years ago they started smoking, this value is subtracted from the respondent's age at the time of interview. If the respondent reports the year in which they started smoking, the respondent's birth year is subtracted from this value to obtain the age at which the respondent started smoking. If the calculated age started smoking takes a value of less than 1, or if the reported age is higher than the respondent's age at the current wave, then RwSTRSMOK is assigned special missing value .i. If the respondent reports multiple ages that they started smoking across waves, the first reported value is used. RwSTRSMOK is assigned special missing .n if the respondent reports never smoking. Don't know, refused, or other missing responses of RwSTRSMOK are assigned special missing codes .d, .r, and .m, respectively. RwSTRSMOK is set to plain missing (.) for respondents who did not participate in the current wave.

RwQUITSMOK indicates the age at which the respondent quit smoking. In waves 1 and 2, respondents are asked the year or age they quit smoking, and these responses are then converted to the age in the MHAS data. In wave 3, respondents can report the age at which they quit smoking, or the year in which they quit smoking. Starting in wave 4, respondents can report the age at which they quit smoking, the number of years ago they quit smoking, or the year in which they quit smoking. If the respondent reports the number of years ago they quit smoking, this value is subtracted from the respondent's age at the time of interview. If the respondent reports the year in which they quit smoking, the respondent's birth year is subtracted from this value to obtain the age at which the respondent quit smoking. If the calculated age quit smoking takes a value of less than 1, or if the reported age is higher than the respondent's age at the current wave, then RwQUITSMOK is assigned special missing value .i. RwQUITSMOK is assigned special missing .n if the respondent reports never smoking. RwQUITSMOK is assigned special missing .c if the respondent reports currently smoking. Don't know, refused, or other missing responses of RwQUITSMOK are assigned special missing codes .d, .r, and .m, respectively. RwQUITSMOK is set to plain missing (.) for respondents who did not participate in the current wave.

SwSMOKEV, SwSMOKEN, SwSMOKEF, SwSTRSMOK, and SwQUITSMOK record the respondent's spouse's smoking behavior and are taken directly from the spouse's RwSMOKEV, RwSMOKEN, RwSMOKEF, RwSTRSMOK, and RwQUITSMOK variables. In addition to the special missing codes used in RwSMOKEV, RwSMOKEN, RwSMOKEF, RwSTRSMOK, and RwQUITSMOK; SwSMOKEV, SwSMOKEN, SwSMOKEF, SwSTRSMOK, and SwQUITSMOK

employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

In all waves the respondent can report the amount smoked per day by reporting the number of cigarettes or number of packs, but the number of packs is converted to the number of cigarettes in the original MHAS data in waves 1 and 2.

In all waves the respondent can report the year or age they started smoking, but the year the respondent started smoking is converted to the age in the original MHAS data in waves 1 and 2. Starting in wave 4, respondent can also report the number of years ago they started smoking.

In all waves the respondent can report the year or age they quit smoking, but the year the respondent quit smoking is converted to the age in the original MHAS data in waves 1 and 2. Starting in wave 4, respondent can also report the number of years ago they quit smoking.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

#### Wave 1:

C54 ever smoked  
C55 smoke now  
C56 how much smoke  
C57 age first smoke  
C59 years not smoking

#### Wave 2:

C51 ever smoked cigarettes  
C52 how old when started smoking  
C53 smoked cigarettes since 2001  
C54 smoke cigarettes now  
C56 how many cigarettes/packs a day  
C58 how many years smoked

#### Wave 3:

C51\_12 Has respondent ever smoked cigarettes  
C52\_1\_12 Age respondent started smoking  
C52\_2\_12 Year respondent started smoking  
C53\_12 Last 2 years: Respondent smoked cigarettes  
C54\_12 Does respondent currently smoke cigarettes  
C56\_1\_12 Respondent's number of cigarettes smoked daily  
C56\_2\_12 Respondent number of cigarette pack(s) smoked daily  
C58\_1\_12 How many years ago did respondent stop smoking, Or  
C58\_2\_12 Year when respondent stopped smoking

#### Wave 4:

C51\_15 Has respondent ever smoked cigarettes  
C52\_1\_15 Respondent age when he/she started smoking  
C52\_2\_15 Year respondent started smoking  
C53\_15 In the last 2 years: Did respondent smoked cigarettes  
C54\_15 Does respondent currently smoke cigarettes  
C56\_15 Respondent's number of cigarettes smoked daily  
C58\_1\_15 Total number of years since the respondent stopped smoki  
C58\_2\_15 Year when respondent stopped smoking

<b>Health Behaviors: Preventive Care</b>
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Wave	Variable	Label	Type
1	R1CHOLST	r1cholst: w1 R Prev Care: Cholesterol	Categ
2	R2CHOLST	r2cholst: w2 R Prev Care: Cholesterol	Categ
3	R3CHOLST	r3cholst: w3 R Prev Care: Cholesterol	Categ
4	R4CHOLST	r4cholst: w4 R Prev Care: Cholesterol	Categ
1	S1CHOLST	s1cholst: w1 S Prev Care: Cholesterol	Categ
2	S2CHOLST	s2cholst: w2 S Prev Care: Cholesterol	Categ
3	S3CHOLST	s3cholst: w3 S Prev Care: Cholesterol	Categ
4	S4CHOLST	s4cholst: w4 S Prev Care: Cholesterol	Categ
3	R3FLUSHT	r3flusht: w3 R Prev Care: Flu shot	Categ
4	R4FLUSHT	r4flusht: w4 R Prev Care: Flu shot	Categ
3	S3FLUSHT	s3flusht: w3 S Prev Care: Flu shot	Categ
4	S4FLUSHT	s4flusht: w4 S Prev Care: Flu shot	Categ
1	R1BREAST	r1breast: w1 R Prev Care: Breast Check	Categ
2	R2BREAST	r2breast: w2 R Prev Care: Breast Check	Categ
3	R3BREAST	r3breast: w3 R Prev Care: Breast Check	Categ
4	R4BREAST	r4breast: w4 R Prev Care: Breast Check	Categ
1	S1BREAST	s1breast: w1 S Prev Care: Breast Check	Categ
2	S2BREAST	s2breast: w2 S Prev Care: Breast Check	Categ
3	S3BREAST	s3breast: w3 S Prev Care: Breast Check	Categ
4	S4BREAST	s4breast: w4 S Prev Care: Breast Check	Categ
1	R1MAMMOG	r1mammog: w1 R Prev Care: Mammogram	Categ
2	R2MAMMOG	r2mammog: w2 R Prev Care: Mammogram	Categ
3	R3MAMMOG	r3mammog: w3 R Prev Care: Mammogram	Categ
4	R4MAMMOG	r4mammog: w4 R Prev Care: Mammogram	Categ
1	S1MAMMOG	s1mammog: w1 S Prev Care: Mammogram	Categ
2	S2MAMMOG	s2mammog: w2 S Prev Care: Mammogram	Categ
3	S3MAMMOG	s3mammog: w3 S Prev Care: Mammogram	Categ
4	S4MAMMOG	s4mammog: w4 S Prev Care: Mammogram	Categ
1	R1PAPSM	r1papsm: w1 R Prev Care: Pap Smear	Categ
2	R2PAPSM	r2papsm: w2 R Prev Care: Pap Smear	Categ
3	R3PAPSM	r3papsm: w3 R Prev Care: Pap Smear	Categ
4	R4PAPSM	r4papsm: w4 R Prev Care: Pap Smear	Categ
1	S1PAPSM	s1papsm: w1 S Prev Care: Pap Smear	Categ
2	S2PAPSM	s2papsm: w2 S Prev Care: Pap Smear	Categ
3	S3PAPSM	s3papsm: w3 S Prev Care: Pap Smear	Categ
4	S4PAPSM	s4papsm: w4 S Prev Care: Pap Smear	Categ
1	R1PROST	r1prost: w1 R Prev Care: Prostate	Categ
2	R2PROST	r2prost: w2 R Prev Care: Prostate	Categ
3	R3PROST	r3prost: w3 R Prev Care: Prostate	Categ
4	R4PROST	r4prost: w4 R Prev Care: Prostate	Categ
1	S1PROST	s1prost: w1 S Prev Care: Prostate	Categ
2	S2PROST	s2prost: w2 S Prev Care: Prostate	Categ
3	S3PROST	s3prost: w3 S Prev Care: Prostate	Categ
4	S4PROST	s4prost: w4 S Prev Care: Prostate	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1CHOLST	14076	0.52	0.50	0.00	1.00
R2CHOLST	12474	0.54	0.50	0.00	1.00
R3CHOLST	14413	0.69	0.46	0.00	1.00



R4CHOLST	14749	0.70	0.46	0.00	1.00
S1CHOLST	9937	0.51	0.50	0.00	1.00
S2CHOLST	8707	0.54	0.50	0.00	1.00
S3CHOLST	9846	0.69	0.46	0.00	1.00
S4CHOLST	9636	0.69	0.46	0.00	1.00
R3FLUSHT	14386	0.60	0.49	0.00	1.00
R4FLUSHT	14703	0.60	0.49	0.00	1.00
S3FLUSHT	9830	0.60	0.49	0.00	1.00
S4FLUSHT	9618	0.60	0.49	0.00	1.00
R1BREAST	8163	0.39	0.49	0.00	1.00
R2BREAST	7341	0.43	0.49	0.00	1.00
R3BREAST	8461	0.61	0.49	0.00	1.00
R4BREAST	8103	0.59	0.49	0.00	1.00
S1BREAST	5094	0.41	0.49	0.00	1.00
S2BREAST	4502	0.46	0.50	0.00	1.00
S3BREAST	5024	0.65	0.48	0.00	1.00
S4BREAST	4624	0.63	0.48	0.00	1.00
R1MAMMOG	8152	0.21	0.41	0.00	1.00
R2MAMMOG	7340	0.24	0.42	0.00	1.00
R3MAMMOG	8460	0.52	0.50	0.00	1.00
R4MAMMOG	8101	0.54	0.50	0.00	1.00
S1MAMMOG	5093	0.23	0.42	0.00	1.00
S2MAMMOG	4503	0.24	0.43	0.00	1.00
S3MAMMOG	5023	0.55	0.50	0.00	1.00
S4MAMMOG	4622	0.59	0.49	0.00	1.00
R1PAPSM	8083	0.65	0.48	0.00	1.00
R2PAPSM	7310	0.63	0.48	0.00	1.00
R3PAPSM	8349	0.70	0.46	0.00	1.00
R4PAPSM	7958	0.65	0.48	0.00	1.00
S1PAPSM	5047	0.68	0.46	0.00	1.00
S2PAPSM	4485	0.68	0.47	0.00	1.00
S3PAPSM	4968	0.76	0.43	0.00	1.00
S4PAPSM	4553	0.72	0.45	0.00	1.00
R1PROST	5756	0.17	0.38	0.00	1.00
R2PROST	4988	0.21	0.41	0.00	1.00
R3PROST	5886	0.31	0.46	0.00	1.00
R4PROST	5620	0.31	0.46	0.00	1.00
S1PROST	4718	0.17	0.38	0.00	1.00
S2PROST	4099	0.22	0.41	0.00	1.00
S3PROST	4777	0.32	0.47	0.00	1.00
S4PROST	4469	0.32	0.47	0.00	1.00

### Categorical Variable Codes

Value-----	R1CHOLST	R2CHOLST	R3CHOLST	R4CHOLST
.d:DK	58	50	32	15
.m:Missing	4			2
.p:Proxy interview, not asked	1032	1178	1275	11
.r:Refuse	16	2	3	2
0.No	6714	5779	4463	4490
1.Yes	7362	6695	9950	10259

Value-----	S1CHOLST	S2CHOLST	S3CHOLST	S4CHOLST
.d:DK	35	35	19	8
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	6
.r:Refuse	13	1	1	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280

## Section B: Health

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0.No	4831	4023	3036	2940
1.Yes	5106	4684	6810	6696
Value-----			R3FLUSHT	R4FLUSHT
.d:DK			58	35
.m:Missing				2
.p:Proxy interview, not asked			1275	37
.r:Refuse			4	2
0.No			5751	5881
1.Yes			8635	8822
Value-----			S3FLUSHT	S4FLUSHT
.d:DK			33	18
.p:Proxy interview, not asked			726	16
.r:Refuse			3	
.u:Unmar			4782	4847
.v:SP NR			349	280
0.No			3957	3866
1.Yes			5873	5752
Value-----	R1BREAST	R2BREAST	R3BREAST	R4BREAST
.d:DK	12	4	5	8
.m:Missing	72	15	5	1
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	24	9	10	2
.x:does not have (organ)	5883	5157	5967	5736
0.No	4993	4218	3260	3353
1.Yes	3170	3123	5201	4750
Value-----	S1BREAST	S2BREAST	S3BREAST	S4BREAST
.d:DK	8	2	1	3
.m:Missing	46	9	4	
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	15	7	5	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have (organ)	4825	4223	4832	4554
0.No	3009	2430	1740	1699
1.Yes	2085	2072	3284	2925
Value-----	R1MAMMOG	R2MAMMOG	R3MAMMOG	R4MAMMOG
.d:DK	18	10	5	7
.m:Missing	72	15	5	1
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	31	5	10	2
.x:does not have (organ)	5881	5156	5968	5739
0.No	6412	5614	4091	3753
1.Yes	1740	1726	4369	4348
Value-----	S1MAMMOG	S2MAMMOG	S3MAMMOG	S4MAMMOG
.d:DK	8	4	2	3
.m:Missing	46	9	4	
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	18	4	4	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have (organ)	4823	4223	4833	4555
0.No	3945	3412	2275	1905
1.Yes	1148	1091	2748	2717
Value-----	R1PAPSM	R2PAPSM	R3PAPSM	R4PAPSM
.d:DK	14	7	4	11
.m:Missing	72	15	5	2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	29	4	11	1
.x:does not have (organ)	5956	5190	6079	5878
0.No	2855	2707	2504	2793
1.Yes	5228	4603	5845	5165
Value-----	S1PAPSM	S2PAPSM	S3PAPSM	S4PAPSM
.d:DK	7	3	2	3
.m:Missing	46	9	4	
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	16	3	4	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have (organ)	4872	4243	4888	4625
0.No	1591	1418	1179	1285

1.Yes	3456	3067	3789	3268
Value-----	R1PROST	R2PROST	R3PROST	R4PROST
.d:DK	17	23	14	14
.m:Missing	62	21		2
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	16	3	3	2
.x:does not have (organ)	8303	7491	8545	8212
0.No	4773	3931	4040	3861
1.Yes	983	1057	1846	1759
Value-----	S1PROST	S2PROST	S3PROST	S4PROST
.d:DK	13	15	13	10
.m:Missing	48	13		1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	14	3	3	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:does not have (organ)	5195	4613	5073	4701
0.No	3894	3199	3260	3051
1.Yes	824	900	1517	1418

## How Constructed

RwCHOLST, RwFLUSHT, RwbREAST, RwmAMMOG, RwpAPSM, and RwpROST indicate whether the respondent reports preventative health tests and procedures. The tests and procedures are: blood test for cholesterol, a flu vaccine (flu shot), monthly self-checks for breast lumps, mammogram or x-ray to check for breast cancer, pap smear to check for uterine cancer, and rectal exam or blood test to screen for prostate cancer, respectively. RwFLUSHT is only available starting Wave 3.

RwCHOLST, RwFLUSHT, RwbREAST, RwmAMMOG, RwpAPSM, and RwpROST are assigned a value of 0 if the respondent has not had the preventative test or procedure, and are assigned a value of 1 if the respondent has had the preventative test or procedure. RwbREAST, RwmAMMOG and RwpROST are also assigned .x if the respondent reports "does not have (the organ)". RwbREAST and RwmAMMOG are assigned .x to indicate that these questions were skipped for respondents who are men or reported not having the organ. RwpROST is assigned .x to indicate that this question was skipped for respondents who are women or reported not having the organ. RwCHOLST, RwFLUSHT, RwbREAST, RwmAMMOG, RwpAPSM, and RwpROST are assigned special missing values .d, .r, .m, if the respondent answer don't know, refused, or answers are missing, respectively. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwCHOLST, SwFLUSHT, SwBREAST, SwMAMMOG, SwPAPSM, and SwPROST are these measures for the respondent's spouse and are taken directly from the spouse's RwCHOLST, RwFLUSHT, RwbREAST, RwmAMMOG, RwpAPSM, and RwpROST variables. In addition to the special missing codes used in RwCHOLST, RwFLUSHT, RwbREAST, RwmAMMOG, RwpAPSM, and RwpROST; SwCHOLST, SwFLUSHT, SwBREAST, SwMAMMOG, SwPAPSM, and SwPROST also uses the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about flu shots are asked starting Wave 3.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

### Wave 1:

C51B blood test  
 C51F breasts test  
 C51G mammogram  
 C51H pap smear  
 C51I prostate exam

### Wave 2:

C48B cholesterol test  
 C48F examine breasts for lumps  
 C48G mammogram  
 C48H pap smear

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C48I	tested for prostate cancer since 2001
Wave 3:	
C48B_12	Last 2 years:Respondent had cholesterol blood test
C48F_12	Last 2 years:Respondent had flu vaccine
C48H_12	Last 2 years:Respondent performed self-breast exam
C48I_12	Last 2 years:Respondent had a mammogram/X-ray
C48J_12	Last 2 years:Respondent had a pap smear
C48K_12	Last 2 years:Respondent had prostate cancer screening
Wave 4:	
C48B_15	In the last 2 years: Respondent had a cholesterol blood
C48F_15	In the last 2 years: Respondent had a flu vaccine
C48H_15	In the last 2 years: Respondent did a self-breast exam
C48J_15	In the last 2 years: Respondent had a pap smear
C48M_15	In the last 2 years: Respondent had a prostate cancer s

## **Section C: Health Care Utilization and Insurance**

<b>Medical Care Utilization: Hospital</b>
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Wave	Variable	Label	Type
1	R1HOSP1Y	r1hosply: w1 R Hospital stay, previous 12 months	Categ
2	R2HOSP1Y	r2hosply: w2 R Hospital stay, previous 12 months	Categ
3	R3HOSP1Y	r3hosply: w3 R Hospital stay, previous 12 months	Categ
4	R4HOSP1Y	r4hosply: w4 R Hospital stay, previous 12 months	Categ
1	S1HOSP1Y	s1hosply: w1 S Hospital stay, previous 12 months	Categ
2	S2HOSP1Y	s2hosply: w2 S Hospital stay, previous 12 months	Categ
3	S3HOSP1Y	s3hosply: w3 S Hospital stay, previous 12 months	Categ
4	S4HOSP1Y	s4hosply: w4 S Hospital stay, previous 12 months	Categ
1	R1HSPNIT1Y	r1hspnitly: w1 R Hospital nights, previous 12 months	Cont
2	R2HSPNIT1Y	r2hspnitly: w2 R Hospital nights, previous 12 months	Cont
3	R3HSPNIT1Y	r3hspnitly: w3 R Hospital nights, previous 12 months	Cont
4	R4HSPNIT1Y	r4hspnitly: w4 R Hospital nights, previous 12 months	Cont
1	S1HSPNIT1Y	s1hspnitly: w1 S Hospital nights, previous 12 months	Cont
2	S2HSPNIT1Y	s2hspnitly: w2 S Hospital nights, previous 12 months	Cont
3	S3HSPNIT1Y	s3hspnitly: w3 S Hospital nights, previous 12 months	Cont
4	S4HSPNIT1Y	s4hspnitly: w4 S Hospital nights, previous 12 months	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HOSP1Y	15150	0.10	0.30	0.00	1.00
R2HOSP1Y	13695	0.11	0.32	0.00	1.00
R3HOSP1Y	15709	0.11	0.32	0.00	1.00
R4HOSP1Y	14753	0.14	0.35	0.00	1.00
S1HOSP1Y	10624	0.09	0.29	0.00	1.00
S2HOSP1Y	9560	0.11	0.31	0.00	1.00
S3HOSP1Y	10584	0.11	0.31	0.00	1.00
S4HOSP1Y	9644	0.13	0.34	0.00	1.00
R1HSPNIT1Y	15150	0.78	5.41	0.00	246.00
R2HSPNIT1Y	13695	0.94	6.89	0.00	365.00
R3HSPNIT1Y	15709	0.83	5.59	0.00	240.00
R4HSPNIT1Y	14753	0.98	5.57	0.00	240.00
S1HSPNIT1Y	10624	0.71	4.89	0.00	150.00
S2HSPNIT1Y	9560	0.89	6.25	0.00	365.00
S3HSPNIT1Y	10584	0.78	5.56	0.00	240.00
S4HSPNIT1Y	9644	0.93	5.64	0.00	240.00

### Categorical Variable Codes

Value	R1HOSP1Y	R2HOSP1Y	R3HOSP1Y	R4HOSP1Y
.d:DK	14	6	13	10
.m:Missing	10	3		16
.r:Refuse	12		1	
0.No	13681	12147	13920	12698
1.Yes	1469	1548	1789	2055
Value	S1HOSP1Y	S2HOSP1Y	S3HOSP1Y	S4HOSP1Y
.d:DK	8	2	8	6
.m:Missing	5	2		2
.r:Refuse	11			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9664	8548	9462	8383
1.Yes	960	1012	1122	1261

## How Constructed

RwHOSP1Y indicates whether the respondent reports at least one overnight hospital stay in the last 12 months. If the respondent reports any overnight hospital stay, RwhSPNIT1Y is the reported total number of nights over all hospital stays, in the last 12 months.

RwHOSP1Y and RwhSPNIT1Y are set to 0, if the respondent reports no overnight hospital stays in the past 12 months. RwHOSP1Y and RwhSPNIT1Y are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHOSP1Y and SwHSPNIT1Y are taken from the Wave 'w' spouse's value for RwHOSP1Y and RwhSPNIT1Y. In addition to the special missing codes used in RwHOSP1Y and RwhSPNIT1Y, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the reference period changes across waves from "12 months", to "the last interview", or "the last 2 years" for new interviewees. However, in the MHAS the reference period, "the past year", is used consistently across waves.

## MHAS Variables Used

Wave 1:	
D4	nights in hospital
Wave 2:	
D11	how many nights spent hospitalized
Wave 3:	
D4_12	Past year: Number of overnight stays in hospital
Wave 4:	
D4_15	Past year: Number of overnight stays in hospital

**Medical Care Utilization: Doctor**

Wave	Variable	Label	Type
1	R1DOCTOR1Y	r1doctorly: w1 R Doctor visits, previous 12 months	Categ
2	R2DOCTOR1Y	r2doctorly: w2 R Doctor visits, previous 12 months	Categ
3	R3DOCTOR1Y	r3doctorly: w3 R Doctor visits, previous 12 months	Categ
4	R4DOCTOR1Y	r4doctorly: w4 R Doctor visits, previous 12 months	Categ
1	S1DOCTOR1Y	s1doctorly: w1 S Doctor visits, previous 12 months	Categ
2	S2DOCTOR1Y	s2doctorly: w2 S Doctor visits, previous 12 months	Categ
3	S3DOCTOR1Y	s3doctorly: w3 S Doctor visits, previous 12 months	Categ
4	S4DOCTOR1Y	s4doctorly: w4 S Doctor visits, previous 12 months	Categ
1	R1DOCTIM1Y	r1doctimly: w1 R # Doctor visits, previous 12 months	Cont
2	R2DOCTIM1Y	r2doctimly: w2 R # Doctor visits, previous 12 months	Cont
3	R3DOCTIM1Y	r3doctimly: w3 R # Doctor visits, previous 12 months	Cont
4	R4DOCTIM1Y	r4doctimly: w4 R # Doctor visits, previous 12 months	Cont
1	S1DOCTIM1Y	s1doctimly: w1 S # Doctor visits, previous 12 months	Cont
2	S2DOCTIM1Y	s2doctimly: w2 S # Doctor visits, previous 12 months	Cont
3	S3DOCTIM1Y	s3doctimly: w3 S # Doctor visits, previous 12 months	Cont
4	S4DOCTIM1Y	s4doctimly: w4 S # Doctor visits, previous 12 months	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DOCTOR1Y	15119	0.64	0.48	0.00	1.00
R2DOCTOR1Y	13655	0.66	0.47	0.00	1.00
R3DOCTOR1Y	15693	0.73	0.44	0.00	1.00
R4DOCTOR1Y	14750	0.80	0.40	0.00	1.00
S1DOCTOR1Y	10604	0.63	0.48	0.00	1.00
S2DOCTOR1Y	9540	0.66	0.47	0.00	1.00
S3DOCTOR1Y	10574	0.72	0.45	0.00	1.00
S4DOCTOR1Y	9646	0.79	0.41	0.00	1.00
R1DOCTIM1Y	15119	4.21	7.99	0.00	365.00
R2DOCTIM1Y	13655	4.58	7.05	0.00	210.00
R3DOCTIM1Y	15693	5.45	6.84	0.00	199.00
R4DOCTIM1Y	14750	6.26	8.24	0.00	240.00
S1DOCTIM1Y	10604	4.06	8.05	0.00	365.00
S2DOCTIM1Y	9540	4.47	6.92	0.00	120.00
S3DOCTIM1Y	10574	5.21	6.39	0.00	144.00
S4DOCTIM1Y	9646	6.10	8.44	0.00	200.00

**Categorical Variable Codes**

Value	R1DOCTOR1Y	R2DOCTOR1Y	R3DOCTOR1Y	R4DOCTOR1Y
.d:DK	46	46	29	13
.m:Missing	10	3		16
.r:Refuse	11		1	
0.No	5415	4592	4237	2998
1.Yes	9704	9063	11456	11752

Value	S1DOCTOR1Y	S2DOCTOR1Y	S3DOCTOR1Y	S4DOCTOR1Y
.d:DK	32	22	17	4
.m:Missing	5	2		2
.r:Refuse	7		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	3911	3277	2948	2021
1.Yes	6693	6263	7626	7625



## How Constructed

RwDOCTOR1Y indicates whether the respondent reports at least one doctor visit in the last 12 months. If the respondent reports any doctor visits, RwDOCTIM1Y is the reported number of visits in the last 12 months.

RwDOCTOR1Y and RwDOCTIM1Y are set to 0, if the respondent reports no doctor visits in the past 12 months. RwDOCTOR1Y and RwDOCTIM1Y are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwDOCTOR1Y and SwDOCTIM1Y are taken from the Wave 'w' spouse's value for RwDOCTOR1Y and RwDOCTIM1Y. In addition to the special missing codes used in RwDOCTOR and RwDOCTIM, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the reference period changes across waves from "12 months", to "the last interview", or "the last 2 years" for new interviewees. However, in the MHAS the reference period "the past year", is used consistently across waves.

## MHAS Variables Used

Wave 1:	
D8_5	medical visits
Wave 2:	
D15_4	in the last year, how many times saw a doctor or medica
Wave 3:	
D8_4_12	Last year:respondent's frequency of consulting a physic
Wave 4:	
D8_4_15	Last year: Respondent's number of visits to a doctor or

<b>Medical Care Utilization: Other Medical Care Utilization</b>
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Wave	Variable	Label	Type
1	R1OUTPT1Y	r1outptly: w1 R Outpatient surgery, previous 12 months	Categ
2	R2OUTPT1Y	r2outptly: w2 R Outpatient surgery, previous 12 months	Categ
3	R3OUTPT1Y	r3outptly: w3 R Outpatient surgery, previous 12 months	Categ
4	R4OUTPT1Y	r4outptly: w4 R Outpatient surgery, previous 12 months	Categ
1	S1OUTPT1Y	s1outptly: w1 S Outpatient surgery, previous 12 months	Categ
2	S2OUTPT1Y	s2outptly: w2 S Outpatient surgery, previous 12 months	Categ
3	S3OUTPT1Y	s3outptly: w3 S Outpatient surgery, previous 12 months	Categ
4	S4OUTPT1Y	s4outptly: w4 S Outpatient surgery, previous 12 months	Categ
1	R1DENTST1Y	r1dentstly: w1 R Dental visits, previous 12 months	Categ
2	R2DENTST1Y	r2dentstly: w2 R Dental visits, previous 12 months	Categ
3	R3DENTST1Y	r3dentstly: w3 R Dental visits, previous 12 months	Categ
4	R4DENTST1Y	r4dentstly: w4 R Dental visits, previous 12 months	Categ
1	S1DENTST1Y	s1dentstly: w1 S Dental visits, previous 12 months	Categ
2	S2DENTST1Y	s2dentstly: w2 S Dental visits, previous 12 months	Categ
3	S3DENTST1Y	s3dentstly: w3 S Dental visits, previous 12 months	Categ
4	S4DENTST1Y	s4dentstly: w4 S Dental visits, previous 12 months	Categ
1	R1DENTIM1Y	r1dentimly: w1 R # Dental visits, previous 12 months	Cont
2	R2DENTIM1Y	r2dentimly: w2 R # Dental visits, previous 12 months	Cont
3	R3DENTIM1Y	r3dentimly: w3 R # Dental visits, previous 12 months	Cont
4	R4DENTIM1Y	r4dentimly: w4 R # Dental visits, previous 12 months	Cont
1	S1DENTIM1Y	s1dentimly: w1 S # Dental visits, previous 12 months	Cont
2	S2DENTIM1Y	s2dentimly: w2 S # Dental visits, previous 12 months	Cont
3	S3DENTIM1Y	s3dentimly: w3 S # Dental visits, previous 12 months	Cont
4	S4DENTIM1Y	s4dentimly: w4 S # Dental visits, previous 12 months	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OUTPT1Y	15160	0.02	0.14	0.00	1.00
R2OUTPT1Y	13698	0.03	0.16	0.00	1.00
R3OUTPT1Y	15715	0.03	0.18	0.00	1.00
R4OUTPT1Y	14760	0.04	0.21	0.00	1.00
S1OUTPT1Y	10633	0.02	0.14	0.00	1.00
S2OUTPT1Y	9561	0.03	0.16	0.00	1.00
S3OUTPT1Y	10585	0.03	0.18	0.00	1.00
S4OUTPT1Y	9649	0.05	0.21	0.00	1.00
R1DENTST1Y	15160	0.25	0.43	0.00	1.00
R2DENTST1Y	13689	0.26	0.44	0.00	1.00
R3DENTST1Y	15705	0.32	0.46	0.00	1.00
R4DENTST1Y	14752	0.36	0.48	0.00	1.00
S1DENTST1Y	10632	0.25	0.43	0.00	1.00
S2DENTST1Y	9555	0.27	0.44	0.00	1.00
S3DENTST1Y	10581	0.32	0.47	0.00	1.00
S4DENTST1Y	9646	0.37	0.48	0.00	1.00
R1DENTIM1Y	15160	0.75	3.50	0.00	330.00
R2DENTIM1Y	13689	0.75	2.45	0.00	100.00
R3DENTIM1Y	15705	0.90	3.00	0.00	200.00
R4DENTIM1Y	14752	1.01	3.55	0.00	300.00
S1DENTIM1Y	10632	0.77	3.90	0.00	330.00
S2DENTIM1Y	9555	0.75	2.49	0.00	100.00
S3DENTIM1Y	10581	0.90	2.57	0.00	99.00
S4DENTIM1Y	9646	1.03	3.79	0.00	300.00

## Categorical Variable Codes

Value-----	R1OUTPT1Y	R2OUTPT1Y	R3OUTPT1Y	R4OUTPT1Y
.d:DK	7	3	7	3
.m:Missing	10	3		16
.r:Refuse	9		1	
0.No	14864	13328	15184	14103
1.Yes	296	370	531	657

Value-----	S1OUTPT1Y	S2OUTPT1Y	S3OUTPT1Y	S4OUTPT1Y
.d:DK	6	1	6	1
.m:Missing	5	2		2
.r:Refuse	4		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	10435	9315	10234	9208
1.Yes	198	246	351	441

Value-----	R1DENTST1Y	R2DENTST1Y	R3DENTST1Y	R4DENTST1Y
.d:DK	11	12	17	11
.m:Missing	10	3		16
.r:Refuse	5		1	
0.No	11442	10111	10745	9458
1.Yes	3718	3578	4960	5294

Value-----	S1DENTST1Y	S2DENTST1Y	S3DENTST1Y	S4DENTST1Y
.d:DK	8	7	11	4
.m:Missing	5	2		2
.r:Refuse	3			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	7944	7010	7171	6090
1.Yes	2688	2545	3410	3556

## How Constructed

RwOUTPT1Y and RwDENTST1Y indicate whether the respondent reports at least one outpatient surgery and dental visits in the last 12 months, respectively. If the respondent reports any dental visits, RwDENTIM1Y is the reported total number of dental visits in the last 12 months.

RwOUTPT1Y is set to 0, if the respondent reports no outpatient surgeries in the past 12 months. RwDENTST1Y, and RwDENTIM1Y are set to 0, if the respondent reports no dental visits in the past 12 months. RwOUTPT1Y, RwDENTST1Y, and RwDENTIM1Y are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwOUTPT1Y, SwDENTST1Y, and SwDENTIM1Y are taken from the Wave 'w' spouse's value for RwOUTPT1Y, RwDENTST1Y, and RwDENTIM1Y. In addition to the special missing codes used in RwOUTPT1Y, RwDENTST1Y, and RwDENTIM1Y, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the reference period changes across waves from "12 months", to "the last interview", or "the last 2 years" for new interviewees. However, in the MHAS the reference period "the past year", is used consistently across waves.

## MHAS Variables Used

Wave 1:  
  D8\_3                   dentist  
  D8\_4                   outpatient procedures  
Wave 2:  
  D15\_2                 in the last year, how many times saw a dentist

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D15_3	in the last year, how many times had surgical procedure
Wave 3:	
D8_2_12	Last year: respondent's number of dentist visit(s)
D8_3_12	Last year: respondent's number of outpatient procedures
Wave 4:	
D8_2_15	Last year: Respondent's number of visits to a dentist
D8_3_15	Last year: Respondent's number of outpatient procedures

<b>Medical Expenditures: Out of Pocket and Total</b>
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Wave	Variable	Label	Type
1	R1OOPMD	rloopmd: w1 R Out of pocket med exp, previous 12 months	Cont
2	R2OOPMD	r2oopmd: w2 R Out of pocket med exp, previous 12 months	Cont
3	R3OOPMD	r3oopmd: w3 R Out of pocket med exp, previous 12 months	Cont
4	R4OOPMD	r4oopmd: w4 R Out of pocket med exp, previous 12 months	Cont
1	S1OOPMD	sloopmd: w1 S Out of pocket med exp, previous 12 months	Cont
2	S2OOPMD	s2oopmd: w2 S Out of pocket med exp, previous 12 months	Cont
3	S3OOPMD	s3oopmd: w3 S Out of pocket med exp, previous 12 months	Cont
4	S4OOPMD	s4oopmd: w4 S Out of pocket med exp, previous 12 months	Cont
1	R1OOPMDF	rloopmdf: w1 R Out of pocket med exp imputed flag	Categ
2	R2OOPMDF	r2oopmdf: w2 R Out of pocket med exp imputed flag	Categ
3	R3OOPMDF	r3oopmdf: w3 R Out of pocket med exp imputed flag	Categ
4	R4OOPMDF	r4oopmdf: w4 R Out of pocket med exp imputed flag	Categ
1	S1OOPMDF	sloopmdf: w1 S Out of pocket med exp imputed flag	Categ
2	S2OOPMDF	s2oopmdf: w2 S Out of pocket med exp imputed flag	Categ
3	S3OOPMDF	s3oopmdf: w3 S Out of pocket med exp imputed flag	Categ
4	S4OOPMDF	s4oopmdf: w4 S Out of pocket med exp imputed flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OOPMD	15176	1301.71	8153.40	0.00	500000.00
R2OOPMD	13701	1320.99	10445.14	0.00	800000.00
R3OOPMD	15723	1444.87	10216.45	0.00	520000.00
R4OOPMD	14763	2196.81	13936.51	0.00	500000.00
S1OOPMD	10643	1284.32	9001.70	0.00	500000.00
S2OOPMD	9562	1392.65	11704.36	0.00	800000.00
S3OOPMD	10592	1302.25	8865.23	0.00	302000.00
S4OOPMD	9650	2004.35	13216.31	0.00	500000.00
R1OOPMDF	15176	0.03	0.17	0.00	1.00
R2OOPMDF	13701	0.03	0.18	0.00	1.00
R3OOPMDF	15723	0.02	0.15	0.00	1.00
R4OOPMDF	14763	0.02	0.15	0.00	1.00
S1OOPMDF	10643	0.03	0.16	0.00	1.00
S2OOPMDF	9562	0.03	0.17	0.00	1.00
S3OOPMDF	10592	0.02	0.13	0.00	1.00
S4OOPMDF	9650	0.02	0.14	0.00	1.00

### Categorical Variable Codes

Value-----	R1OOPMDF	R2OOPMDF	R3OOPMDF	R4OOPMDF
.m:Missing	10	3		16
0.No	14697	13251	15359	14421
1.Yes	479	450	364	342
Value-----	S1OOPMDF	S2OOPMDF	S3OOPMDF	S4OOPMDF
.m:Missing	5	2		2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	10356	9286	10399	9467
1.Yes	287	276	193	183

### How Constructed

RwOOPMD is the total out of pocket medical expenditure in the last 12 months. For medical out of pocket expenses, all components were imputed separately by the MHAS. In Wave 1, the imputed components included: hospital costs (for overnight stays only), folk healer (curandero), homeopath,

dentist, outpatient surgery costs, and doctor. After Wave 2, the options folk healer and homeopath were lumped into one option. The questions ask "about how much did you pay for these?".

RwOOPMDF indicates whether the components included to construct RwOOPMD were imputed by the MHAS.

Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwOOPMD and RwOOPMDF are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are also assigned special missing value .m for the cases that failed to complete Section D (Medical Expenditures). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwOOPMD and SwOOPMDF are taken from the Wave 'w' spouse's value for RwOOPMD and RwOOPMDF. In addition to the special missing codes used in RwOOPMD and RwOOPMDF, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

In Wave 1, the MHAS imputed components of out of pocket medical expenditure were: hospital costs (for overnight stays only), folk healer (curandero), homeopath, dentist, outpatient surgery costs, and doctor. After Wave 2, the options folk healer and homeopath were lumped into one option. The questions ask "about how much did you pay for these?".

## Differences with the RAND HRS/Harmonized HRS

The MHAS imputed all the variables used as components of RwOOPMD. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

### Wave 1:

D6IMP	if imputed value
D9_1IMP	if imputed value
D9_2IMP	if imputed value
D9_3IMP	if imputed value
D9_4IMP	if imputed value
D9_5IMP	if imputed value
IMAMD6	total hospitalization expenditures (imputed)
IMAMD9_1	total folkhealer (curandero) expenditures (imputed)
IMAMD9_2	total homeopath expenditures (imputed)
IMAMD9_3	total dental expenditures (imputed)
IMAMD9_4	total outpatient procedure expenditures (imputed)
IMAMD9_5	total medical visits expenditures (imputed)

### Wave 2:

D13IMP	if imputed value
D16_1IMP	if imputed value
D16_2IMP	if imputed value
D16_3IMP	if imputed value
D16_4IMP	if imputed value
IMAMD13	total hospitalization expenditures (imputed)
IMAMD16_1	total curandero/homeopath expenditures (imputed)
IMAMD16_3	total outpatient procedure expenditures (imputed)
IMAMD16_4	total medical visits expenditures (imputed)

### Wave 3:

D6_IMP_12
D9_1_IMP_12
D9_2_IMP_12
D9_3_IMP_12
D9_4_IMP_12
IMAMD6_12
IMAMD9_1_12

IMAMD9\_3\_12

IMAMD9\_4\_12

## Wave 4:

D6_IMP_15	Total hospitalization costs (Flag if imputed value)
D9_1_IMP_15	Total curandero/ homeopath costs (Flag if imputed value)
D9_2_IMP_15	Total dentist costs (Flag if imputed value)
D9_3_IMP_15	Total outpatient procedure costs (Flag if imputed value)
D9_4_IMP_15	Total medical visits costs (Flag if imputed value)
IMAMD6_15	Total hospitalization costs (imputed)
IMAMD9_1_15	Total curandero/ homeopath costs(imputed)
IMAMD9_3_15	Total outpatient procedure costs (imputed)
IMAMD9_4_15	Total medical visits costs (imputed)

<b>Covered by Federal Government Health Insurance Program</b>
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Wave	Variable	Label	Type
1	R1HIGOV	r1higov: w1 R Covered by government plan	Categ
2	R2HIGOV	r2higov: w2 R Covered by government plan	Categ
3	R3HIGOV	r3higov: w3 R Covered by government plan	Categ
4	R4HIGOV	r4higov: w4 R Covered by government plan	Categ
1	S1HIGOV	s1higov: w1 S Covered by government plan	Categ
2	S2HIGOV	s2higov: w2 S Covered by government plan	Categ
3	S3HIGOV	s3higov: w3 S Covered by government plan	Categ
4	S4HIGOV	s4higov: w4 S Covered by government plan	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HIGOV	15148	0.58	0.49	0.00	1.00
R2HIGOV	13691	0.59	0.49	0.00	1.00
R3HIGOV	15720	0.85	0.36	0.00	1.00
R4HIGOV	14757	0.90	0.31	0.00	1.00
S1HIGOV	10625	0.58	0.49	0.00	1.00
S2HIGOV	9557	0.60	0.49	0.00	1.00
S3HIGOV	10591	0.86	0.34	0.00	1.00
S4HIGOV	9647	0.91	0.29	0.00	1.00

### Categorical Variable Codes

Value	R1HIGOV	R2HIGOV	R3HIGOV	R4HIGOV
.d:DK	5	9	3	6
.m:Missing	10	3		16
.r:Refuse	23	1		
0.No	6349	5598	2355	1536
1.Yes	8799	8093	13365	13221

Value	S1HIGOV	S2HIGOV	S3HIGOV	S4HIGOV
.d:DK	2	5	1	3
.m:Missing	5	2		2
.r:Refuse	16			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	4414	3847	1451	903
1.Yes	6211	5710	9140	8744

### How Constructed

RwHIGOV indicates whether the respondent is covered by any government health insurance program. The question asks if the respondent has the right to medical attention in an organization or institution that provided the service. The options listed for the respondent changed starting in Wave 3 to include two new organizations: ISSSTE Estatal and Seguro Popular.

RwHIGOV is assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHIGOV is taken from the Wave 'w' spouse's value for RwHIGOV. In addition to the special missing codes used in RwHIGOV, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Respondents were asked if they had the right to medical attention in an organization or institution that provided the service. In Waves 1 and 2, the list included the following: the Mexican Social Security Institute (Instituto Mexican del Seguro Social, IMSS) which is a government organization



that provides medical attention, pensions and social security in Mexico; the Institute for Social Security and Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) which is a federal government organization that administers part of Mexico's health care and social security systems, and provides assistance in cases of disability, old age, risks in labor, and death to federal workers; and the Mexican state-owned petroleum company (Petróleos Mexicanos, PEMEX), Defense, and Marines medical attention program for their workers and members. Starting in Wave 3, the ISSSTE option also included State ISSSTE (ISSSTE Estatal). Also, Seguro Popular was included as an additional option. Seguro Popular is a public health insurance program that covers a wide range of services without co-pays for its affiliates. It was established by the government in 2003 as an effort to expand health care to all in Mexico.

### Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the respondent is asked if he/she is covered by any government health insurance program. In the MHAS, the respondent is asked if he/she 'has the right to medical attention' in an organization or institution. Respondents are asked if they had right to each of the options including different government programs, private insurance, and other programs (not listed before).

### MHAS Variables Used

#### Wave 1:

D1_1	imss
D1_2	issste
D1_3	pemex

#### Wave 2:

D8_1	have rights to social security (imss)
D8_2	have rights to issste
D8_3	have rights to pemex, defense or navy

#### Wave 3:

D1_1_12	Does respondent have a right to medical attention_IMSS
D1_2_12	Does respondent have a right to medical attention_ISSST
D1_3_12	Does respondent have a right to medical attention_Seg P
D1_4_12	Does respondent have a right to medical attention:PEMEX

#### Wave 4:

D1_1_15	Does respondent have a right to medical attention: IMSS
D1_2_15	Does respondent have a right to medical attention: ISSS
D1_3_15	Does respondent have a right to medical attention: Segu
D1_4_15	Does respondent have a right to medical attention: PEME

**Covered by Private Health Insurance**

Wave	Variable	Label	Type
1	R1HIPRIV	r1hipriv: w1 R Covered by private health insurance	Categ
2	R2HIPRIV	r2hipriv: w2 R Covered by private health insurance	Categ
3	R3HIPRIV	r3hipriv: w3 R Covered by private health insurance	Categ
4	R4HIPRIV	r4hipriv: w4 R Covered by private health insurance	Categ
1	S1HIPRIV	s1hipriv: w1 S Covered by private health insurance	Categ
2	S2HIPRIV	s2hipriv: w2 S Covered by private health insurance	Categ
3	S3HIPRIV	s3hipriv: w3 S Covered by private health insurance	Categ
4	S4HIPRIV	s4hipriv: w4 S Covered by private health insurance	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HIPRIV	14960	0.02	0.15	0.00	1.00
R2HIPRIV	13691	0.02	0.13	0.00	1.00
R3HIPRIV	15702	0.02	0.15	0.00	1.00
R4HIPRIV	14749	0.02	0.15	0.00	1.00
S1HIPRIV	10483	0.02	0.15	0.00	1.00
S2HIPRIV	9557	0.02	0.14	0.00	1.00
S3HIPRIV	10576	0.02	0.15	0.00	1.00
S4HIPRIV	9641	0.02	0.15	0.00	1.00

**Categorical Variable Codes**

Value	R1HIPRIV	R2HIPRIV	R3HIPRIV	R4HIPRIV
.d:DK	63	9	5	7
.m:Missing	10	3		16
.r:Refuse	153	1	16	7
0.No	14636	13451	15318	14429
1.Yes	324	240	384	320

Value	S1HIPRIV	S2HIPRIV	S3HIPRIV	S4HIPRIV
.d:DK	52	5	2	4
.m:Missing	5	2		2
.r:Refuse	108		14	5
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	10249	9378	10320	9426
1.Yes	234	179	256	215

**How Constructed**

RwHIPRIV indicates whether the respondent is covered by any private medical health insurance. RwHIPRIV is assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHIPRIV is taken from the Wave 'w' spouse's value for RwHIPRIV. In addition to the special missing codes used in RwHIPRIV, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

In RAND HRS, the respondent is asked if he/she is covered by any private health insurance program. In the MHAS, the respondent is asked if he/she 'has the right to medical attention' in an

organization or institution. Respondents are asked if they had right to each of the options including different government programs, private insurance, and other programs (not listed before).

### MHAS Variables Used

Wave 1:

D1\_4 private physician

Wave 2:

D8\_4 have rights to private medical insurance

Wave 3:

D1\_5\_12 Does respondent have a right to medical attention\_Priva

Wave 4:

D1\_5\_15 Does respondent have a right to medical attention: Priv

**Covered by Health Insurance from a Current or Previous Employer**

Wave	Variable	Label	Type
1	R1COVR_M	r1covr_m: w1 R Covered by respondent's employer plan	Categ
2	R2COVR_M	r2covr_m: w2 R Covered by respondent's employer plan	Categ
3	R3COVR_M	r3covr_m: w3 R Covered by respondent's employer plan	Categ
4	R4COVR_M	r4covr_m: w4 R Covered by respondent's employer plan	Categ
1	S1COVR_M	s1covr_m: w1 S Covered by respondent's employer plan	Categ
2	S2COVR_M	s2covr_m: w2 S Covered by respondent's employer plan	Categ
3	S3COVR_M	s3covr_m: w3 S Covered by respondent's employer plan	Categ
4	S4COVR_M	s4covr_m: w4 S Covered by respondent's employer plan	Categ
1	R1COVS_M	r1covs_m: w1 R Covered by spouse's employer plan	Categ
2	R2COVS_M	r2covs_m: w2 R Covered by spouse's employer plan	Categ
3	R3COVS_M	r3covs_m: w3 R Covered by spouse's employer plan	Categ
4	R4COVS_M	r4covs_m: w4 R Covered by spouse's employer plan	Categ
1	S1COVS_M	s1covs_m: w1 S Covered by spouse's employer plan	Categ
2	S2COVS_M	s2covs_m: w2 S Covered by spouse's employer plan	Categ
3	S3COVS_M	s3covs_m: w3 S Covered by spouse's employer plan	Categ
4	S4COVS_M	s4covs_m: w4 S Covered by spouse's employer plan	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1COVR_M	15148	0.25	0.43	0.00	1.00
R2COVR_M	13691	0.25	0.43	0.00	1.00
R3COVR_M	11605	0.37	0.48	0.00	1.00
R4COVR_M	14773	0.29	0.45	0.00	1.00
S1COVR_M	10625	0.25	0.44	0.00	1.00
S2COVR_M	9557	0.26	0.44	0.00	1.00
S3COVR_M	7718	0.39	0.49	0.00	1.00
S4COVR_M	9649	0.30	0.46	0.00	1.00
R1COVS_M	15148	0.15	0.36	0.00	1.00
R2COVS_M	13691	0.15	0.36	0.00	1.00
R3COVS_M	11605	0.23	0.42	0.00	1.00
R4COVS_M	14773	0.18	0.38	0.00	1.00
S1COVS_M	10625	0.18	0.38	0.00	1.00
S2COVS_M	9557	0.18	0.38	0.00	1.00
S3COVS_M	7718	0.26	0.44	0.00	1.00
S4COVS_M	9649	0.20	0.40	0.00	1.00

**Categorical Variable Codes**

Value-----	R1COVR_M	R2COVR_M	R3COVR_M	R4COVR_M
.d:DK	5	9	3	6
.m:Missing	10	3	4115	
.r:Refuse	23	1		
0.No	11431	10300	7323	10515
1.Yes	3717	3391	4282	4258
Value-----	S1COVR_M	S2COVR_M	S3COVR_M	S4COVR_M
.d:DK	2	5	1	3
.m:Missing	5	2	2873	
.r:Refuse	16			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	7917	7078	4688	6761
1.Yes	2708	2479	3030	2888
Value-----	R1COVS_M	R2COVS_M	R3COVS_M	R4COVS_M
.d:DK	5	9	3	6

.m:Missing	10	3	4115	
.r:Refuse	23	1		
0.No	12844	11618	8916	12117
1.Yes	2304	2073	2689	2656
Value-----	S1COVS_M	S2COVS_M	S3COVS_M	S4COVS_M
.d:DK	2	5	1	3
.m:Missing	5	2	2873	
.r:Refuse	16			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8744	7866	5701	7710
1.Yes	1881	1691	2017	1939

## How Constructed

All respondents are asked whether they have the right to medical attention through different types of providers for employees: 1) Social Security (IMSS), 2) ISSSTE, 3) Pemex, Defensa or Marina. Starting in Wave 3, State ISSSTE was listed in the same option as ISSSTE. For each possible provider of medical attention that the respondent identifies, the respondent is asked to select one reason why they have the right to these medical services with the options of: 1) A worker, 2) Affiliated on your own, 3) Retired, 4) Spouse of insured, 5) Mother or father of insured, 7) Other.

RwCOVR\_M indicates whether the respondent is covered by health insurance because they are or were a worker. A value of 1 is assigned if the respondent answers they have the right to medical attention through any of the 3 possible types of providers for employees and lists the reason for having the right to medical services for that provider as because they are a worker or because they are retired, for at least one of the providers. A value of 0 is assigned if the respondent does not have any right to medical attention or if their right to medical attention was always due to reasons other than being a worker or being retired. When respondents don't know, refuse, or their answer is missing for another reason RwCOVR\_M is assigned special missing values .d, .r, or .m, respectively. RwCOVR\_M is set to plain missing (.) for respondents who did not respond to the current wave.

RwCOVS\_M indicates whether the respondent is covered by health insurance because their spouse is or was a worker. A value of 1 is assigned if the respondent answers they have the right to medical attention through any of the 3 possible types of providers for employees and lists the reason for having the right to medical services for that provider as because they are the spouse of the insured, for at least one of the providers. A value of 0 is assigned if the respondent does not have any right to medical attention or if their right to medical attention was always due to reasons other than being the spouse of the insured. When respondents don't know, refuse, or their answer is missing for another reason RwCOVS\_M is assigned special missing values .d, .r, or .m, respectively. RwCOVS\_M is set to plain missing (.) for respondents who did not respond to the current wave.

SwCOVR\_M indicates whether the respondent's spouse or partner is covered by the respondent's employer. SwCOVS\_M indicates whether the respondent's spouse is covered by the spouse's employer. SwCOVR\_M and SwCOVS\_M are taken from the Wave 'w' spouse's values for RwCOVR\_M and RwCOVS\_M. In addition to the special missing codes used in RwCOVR\_M and RwCOVS\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

Starting at Wave 3, the ISSSTE option also included State ISSSTE (ISSSTE Estatal).

## Differences with the RAND HRS/Harmonized HRS

Though health insurance is often provided through employers in both Mexico and the US, the arrangements and organization of these plans are very different. In Mexico, citizens employed outside of the public sector and their dependents can access medical services through the governmental system of IMSS which is funded equally by the employee, the private employer, and the federal government. Public employees and their dependents can access medical services through ISSSTE, Pemex, Defensa or Marina, depending on what governmental organization they work for. In the United States, people employed outside of the public sector and their dependents are often provided private health insurance through their employer. Public employees and their dependents are often provided health insurance through government run systems like FEHBP and MHS, depending on what

governmental organization they work for. These differences in the provision of health insurance for employees are reflected in differences between the HRS and the MHAS surveys.

In the HRS, respondents are first asked about government health insurance systems which include questions for public employees who are provided health insurance through government run systems and then respondents are asked about other private health insurance plans. In the RAND HRS, Rwcovr and Rwcovs use information from the set of HRS questions about private health insurance and identifies whether those private plans are provided by current or former employers of the respondent or the spouse, respectively. In the MHAS, respondents are asked about government-run health insurance for employees. In the Harmonized MHAS, Rwcovr\_M identifies whether government-run health insurance is provided because the respondent is or was a worker. In the Harmonized MHAS, Rwcovs\_M identifies whether government-run health insurance is provided because the respondent's spouse is or was a worker. Rwcovr and Rwcovs in the RAND HRS therefore does not capture government run health insurance provided to public employees as does Rwcovr\_M and Rwcovs\_M in the Harmonized MHAS. Given these considerable differences, these sets of variables should not be considered immediately comparable between the RAND HRS and the Harmonized MHAS.

## MHAS Variables Used

### Wave 1:

D2_1	reason to access to imss
D2_2	reason to access to issste
D2_3	reason to access to pemex

### Wave 2:

D9_1	why have rights to social security (imss)
D9_2	why have rights to issste
D9_3	why have rights to pemex, defense or navy

### Wave 3:

D2_1_12	Reason respondent has a right to medical services_IMSS
D2_2_12	Reason respondent has a right to medical services_ISSST
D2_4_12	Reason respondent has a right to medical services:PEMEX

### Wave 4:

D2_1_15	Reason respondent has a right to medical services: IMSS
D2_2_15	Reason respondent has a right to medical services: ISSS
D2_4_15	Reason respondent has a right to medical services: PEME

## Number of Health Insurance Plans

Wave	Variable	Label	Type
1	R1HENUM	r1henum: w1 R Number of health insurance plans	Cont
2	R2HENUM	r2henum: w2 R Number of health insurance plans	Cont
3	R3HENUM	r3henum: w3 R Number of health insurance plans	Cont
4	R4HENUM	r4henum: w4 R Number of health insurance plans	Cont
1	S1HENUM	s1henum: w1 S Number of health insurance plans	Cont
2	S2HENUM	s2henum: w2 S Number of health insurance plans	Cont
3	S3HENUM	s3henum: w3 S Number of health insurance plans	Cont
4	S4HENUM	s4henum: w4 S Number of health insurance plans	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HENUM	14924	0.66	0.57	0.00	4.00
R2HENUM	13688	0.69	0.57	0.00	4.00
R3HENUM	15651	0.97	0.49	0.00	4.00
R4HENUM	14727	1.04	0.48	0.00	4.00
S1HENUM	10458	0.66	0.57	0.00	3.00
S2HENUM	9556	0.71	0.57	0.00	4.00
S3HENUM	10550	0.99	0.48	0.00	4.00
S4HENUM	9619	1.05	0.46	0.00	4.00

**How Constructed**

RWHENUM is the count of the number of health insurance plans the respondent reports having rights to. The question asks if the respondent has the right to medical attention in an organization or institution that provided the service; the options include different government programs, private insurance, and other programs (not listed before). The options listed for the respondent changed after Wave 3 including two new organizations: ISSSTE Estatal was added to the existing option ISSSTE and Seguro Popular as new option.

In Waves 1 and 2, RWHENUM = sum (IMSS + ISSSTE + PEMEX/Marine/Defense + Private + Other). The maximum total number is 5.

Starting in Wave 3, RWHENUM = sum (IMSS + ISSSTE/State ISSSTE + PEMEX/Marine/Defense + Seguro Popular + Private + Other). The maximum total number is 6.

RWHENUM is set to 0, if the respondent reports he/she does not have right to medical attention. RWHENUM is assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SWHENUM is taken from the Wave 'w' spouse's value for RWHENUM. In addition to the special missing codes used in RWHENUM, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

Respondents were asked if they had the right to medical attention in an organization or institution that provided the service. In Waves 1 and 2, the list included the following: the Mexican Social Security Institute (Instituto Mexicano del Seguro Social, IMSS) which is a government organization that provides medical attention, pensions and social security in Mexico; the Institute for Social Security and Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) which is a federal government organization that administers part of Mexico's health care and social security systems, and provides assistance in cases of disability, old age, risks in labor, and death to federal workers; and the Mexican state-owned petroleum company (Petróleos Mexicanos, PEMEX), Defense, and Marines medical attention program for their workers and members. Starting in Wave 3, the ISSSTE option also included State ISSSTE (ISSSTE Estatal). Also, Seguro Popular was also included as an additional option. Seguro Popular is a

public health insurance program that covers a wide range of services without co-pays for its affiliates. It was established by the government in 2003 as an effort to expand health care to all in Mexico.

After Wave 3, the possible total number of health insurance plans increased from 5 to 6.

### Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the respondent asked if he/she is covered by any government or private health insurance program, and they are subsequently asked if they are covered by certain specific plans. In the MHAS, the respondent is asked if he/she 'has the right to medical attention' in an organization or institution. Respondents are asked if they had right to each of the options including different government programs, private insurance, and other programs (not listed before).

### MHAS Variables Used

#### Wave 1:

D1_1	imss
D1_2	issste
D1_3	pemex

#### Wave 2:

D8_1	have rights to social security (imss)
D8_2	have rights to issste
D8_3	have rights to pemex, defense or navy

#### Wave 3:

D1_1_12	Does respondent have a right to medical attention_IMSS
D1_2_12	Does respondent have a right to medical attention_ISSST
D1_3_12	Does respondent have a right to medical attention_Seg P

#### Wave 4:

D1_1_15	Does respondent have a right to medical attention: IMSS
D1_2_15	Does respondent have a right to medical attention: ISSS
D1_3_15	Does respondent have a right to medical attention: Segu



## **Section D: Cognition**

<b>Cognition Testing Conditions</b>
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Wave	Variable	Label	Type
1	R1NOVISUAL	r1novisual: w1 R Visual Problems	Categ
2	R2NOVISUAL	r2novisual: w2 R Visual Problems	Categ
3	R3NOVISUAL	r3novisual: w3 R Visual Problems	Categ
4	R4NOVISUAL	r4novisual: w4 R Visual Problems	Categ
1	S1NOVISUAL	s1novisual: w1 S Visual Problems	Categ
2	S2NOVISUAL	s2novisual: w2 S Visual Problems	Categ
3	S3NOVISUAL	s3novisual: w3 S Visual Problems	Categ
4	S4NOVISUAL	s4novisual: w4 S Visual Problems	Categ
1	R1NOPENCIL	r1nopencil: w1 R Problem Holding a Pencil	Categ
2	R2NOPENCIL	r2nopencil: w2 R Problem Holding a Pencil	Categ
3	R3NOPENCIL	r3nopencil: w3 R Problem Holding a Pencil	Categ
4	R4NOPENCIL	r4nopencil: w4 R Problem Holding a Pencil	Categ
1	S1NOPENCIL	s1nopencil: w1 S Problem Holding a Pencil	Categ
2	S2NOPENCIL	s2nopencil: w2 S Problem Holding a Pencil	Categ
3	S3NOPENCIL	s3nopencil: w3 S Problem Holding a Pencil	Categ
4	S4NOPENCIL	s4nopencil: w4 S Problem Holding a Pencil	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1NOVISUAL	13960	0.02	0.13	0.00	1.00
R2NOVISUAL	12495	0.03	0.17	0.00	1.00
R3NOVISUAL	14116	0.00	0.07	0.00	1.00
R4NOVISUAL	13714	0.00	0.05	0.00	1.00
S1NOVISUAL	9858	0.01	0.12	0.00	1.00
S2NOVISUAL	8728	0.02	0.15	0.00	1.00
S3NOVISUAL	9652	0.00	0.06	0.00	1.00
S4NOVISUAL	9123	0.00	0.05	0.00	1.00
R1NOPENCIL	13703	0.06	0.23	0.00	1.00
R2NOPENCIL	12101	0.04	0.20	0.00	1.00
R3NOPENCIL	14126	0.02	0.14	0.00	1.00
R4NOPENCIL	13741	0.02	0.14	0.00	1.00
S1NOPENCIL	9718	0.05	0.21	0.00	1.00
S2NOPENCIL	8525	0.03	0.18	0.00	1.00
S3NOPENCIL	9653	0.02	0.12	0.00	1.00
S4NOPENCIL	9137	0.02	0.13	0.00	1.00

### Categorical Variable Codes

Value-----	R1NOVISUAL	R2NOVISUAL	R3NOVISUAL	R4NOVISUAL
.m:Missing	27	20	128	
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse			43	53
.s:Skip	167	11	161	83
0.No	13701	12100	14054	13675
1.Yes	259	395	62	39
Value-----	S1NOVISUAL	S2NOVISUAL	S3NOVISUAL	S4NOVISUAL
.m:Missing	10	6	86	
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse			21	30
.s:Skip	120	9	107	29
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9717	8525	9615	9101
1.Yes	141	203	37	22

Value-----	R1NOPENCIL	R2NOPENCIL	R3NOPENCIL	R4NOPENCIL
.m:Missing	25	20	132	
.n:not specified			6	
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse			23	26
.s:Skip	426	405	161	83
0.No	12942	11594	13825	13448
1.Yes	761	507	301	293

Value-----	S1NOPENCIL	S2NOPENCIL	S3NOPENCIL	S4NOPENCIL
.m:Missing	9	6	85	
.n:not specified			4	
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse			17	16
.s:Skip	261	212	107	29
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	9263	8230	9503	8972
1.Yes	455	295	150	165

## How Constructed

These variables indicate whether the respondent reported visual problems or problems holding a pencil, respectively.

In Wave 1, RwnoVISUAL was derived from the variable that indicates the respondent's reading ability (with or without glasses). If the respondent could not see the letters, RwnoVISUAL was set to 1. In Wave 2, RwnoVISUAL was derived from the assessment done to determine if the respondent could see close objects, with glasses if needed. If the respondent could not see the objects, RwnoVISUAL was set to 1. If the respondent had difficulty reading (RwnoVISUAL=1), the respondent was not asked to complete the picture drawing and visual scanning tasks. Similar to Wave 3, RwnoVISUAL was derived from both the assessment and the variable that indicates the respondent reading ability (with or without glasses). If the respondent reported he/she could not read, the respondent was not asked to complete the picture drawing and visual scanning tasks.

RwnoPENCIL was derived with similar variables across the three waves based on whether the respondent reported any problem holding the pencil he/she was asked to try to hold. If the respondent has paralysis, tries to hold the pencil but can't, or if he refuses to try, RwnoPENCIL was set to 1. Also, if RwnoPENCIL was equal to 1 the respondent was not asked to complete the picture drawing and visual scanning tasks.

These variables are set to .p for proxy interviews, .s if the questions were skipped, .i if the code is invalid, and .m if they didn't complete the section but completed the rest of the interview. In Wave 3, RwnoPENCIL is set to special missing value .n if answer was coded as "not applicable". The variables are plain missing (.) for respondents who did not respond to the current wave.

SwnoVISUAL and SwnoPENCIL are taken from the Wave 'w' spouse's value for RwnoVISUAL and RwnoPENCIL respectively. In addition to the special missing codes used in RwnoVISUAL and RwnoPENCIL, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The introductory questions in the Cognition section (Section E) are similar across waves. However RwnoVISUAL was derived in Wave 1 only from the variable which indicates the respondent reading ability (with or without glasses), in Wave 2 from the assessment done to determine if the respondent could see close objects, with glasses if needed, and in Waves 3 and 4 from both the assessment and the variable that indicates the respondent reading ability (with or without glasses). Also different across waves, is that in Waves 1 and 2 the interviews could be completed in a language different from Spanish and the cognitive assessment is not completed in that case, and the variable are then set to the special missing .s.

## Differences with the RAND HRS/Harmonized HRS

RwnoVISUAL and RwnoPENCIL are MHAS specific and the questions used to derived these variables are only used this study.

**MHAS Variables Used**

## Wave 1:

E2 glasses help  
E3 use glasses  
E4 glasses for close-up  
E5 loud voice

## Wave 2:

E2 glasses  
E3 can respondent see clearly now  
E4 have problems holding a pencil  
E5 types of pencil-holding problems

## Wave 3:

E3A\_12 Interviewer:Can respondent read without glasses  
E3B\_12 Respondent can read well (with glasses if needed)  
E4\_12 Does respondent have difficulty using a pencil  
E5\_12 Respondent's type of difficulties

## Wave 4:

E3A\_15 Interviewer:Can respondent read without glasses  
E3B\_15 Respondent can read well (with glasses if needed)  
E4\_15 Does respondent have difficulty using a pencil  
E5\_15 Respondent's type of difficulties

<b>Self-Reported Memory</b>
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Wave	Variable	Label	Type
3	R3SLFMEM	r3slfmem: w3 R Self-Rated Memory	Categ
4	R4SLFMEM	r4slfmem: w4 R Self-Rated Memory	Categ
3	S3SLFMEM	s3slfmem: w3 S Self-Rated Memory	Categ
4	S4SLFMEM	s4slfmem: w4 S Self-Rated Memory	Categ
3	R3PSTMEM	r3pstmem: w3 R Memory Compared to the Past	Categ
4	R4PSTMEM	r4pstmem: w4 R Memory Compared to the Past	Categ
3	S3PSTMEM	s3pstmem: w3 S Memory Compared to the Past	Categ
4	S4PSTMEM	s4pstmem: w4 S Memory Compared to the Past	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SLFMEM	14154	3.53	0.84	1.00	5.00
R4SLFMEM	13739	3.60	0.80	1.00	5.00
S3SLFMEM	9672	3.52	0.84	1.00	5.00
S4SLFMEM	9138	3.58	0.80	1.00	5.00
R3PSTMEM	14105	2.16	0.50	1.00	3.00
R4PSTMEM	13740	2.21	0.50	1.00	3.00
S3PSTMEM	9634	2.15	0.50	1.00	3.00
S4PSTMEM	9137	2.20	0.49	1.00	3.00

### Categorical Variable Codes

Value-----	R3SLFMEM	R4SLFMEM
.d:DK	11	8
.m:Missing	118	
.p:Proxy interview, not asked	1275	929
.r:Refuse	165	103
1.Excellent	469	382
2.Very good	712	548
3.Good	4892	4363
4.Fair	6951	7393
5.Poor	1130	1053
Value-----	S3SLFMEM	S4SLFMEM
.d:DK	7	2
.m:Missing	77	
.p:Proxy interview, not asked	726	470
.r:Refuse	110	42
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Excellent	345	262
2.Very good	488	363
3.Good	3353	2936
4.Fair	4770	4937
5.Poor	716	640
Value-----	R3PSTMEM	R4PSTMEM
.d:DK	46	7
.m:Missing	121	
.p:Proxy interview, not asked	1275	929
.r:Refuse	176	103
1.Better	867	614
2.About the same	10179	9667
3.Worse	3059	3459
Value-----	S3PSTMEM	S4PSTMEM
.d:DK	34	4
.m:Missing	80	

.p:Proxy interview, not asked	726	470
.r:Refuse	118	41
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Better	581	382
2.About the same	7068	6531
3.Worse	1985	2224

## How Constructed

RwSLFMEM provides self-reported general rating of memory and RwpSTMEM provides a self-reported measure of change in memory since the last two years.

RwSLFMEM ranges from 1 to 5: a score of 1 stands for excellent, 2 for very good, 3 for good, 4 for fair, and 5 for poor memory. RwpSTMEM ranges from 1 to 3: a score of 1 stands for better, 2 for about the same, and 3 for worse. RwSLFMEM and RwpSTMEM are assigned special missing values .d or .r, if Don't know or Refused, respectively. These variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, and .m if they didn't complete the section but completed the rest of the interview. The variables are plain missing (.) for respondents who did not respond to the current wave.

These questions were only asked after Wave 3 (2012).

SwSLFMEM and SwpSTMEM are taken from the Wave 'w' spouse's value for RwSLFMEM and RwpSTMEM, respectively. In addition to the special missing codes used in RwSLFMEM and RwpSTMEM, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The self-reported memory questions were only asked starting in Wave 3 (2012).

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS respondents are only asked about their change of memory in the past two years, regardless of when was the last interview or if it is the first interview.

## MHAS Variables Used

Wave 3:

E1A\_12 Global self-reported quality of memory  
E1B\_12 Compared to 2 years ago: respondent reports his/her mem

Wave 4:

E1A\_15 Self-reported memory  
E1B\_15 Compared to 2 years ago: respondent reports his/her mem

<b>Immediate Word Recall</b>
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Wave	Variable	Label	Type
1	R1IMRC_M	r1imrc_m: w1 R Immediate Word Recall 0-8	Cont
2	R2IMRC_M	r2imrc_m: w2 R Immediate Word Recall 0-8	Cont
3	R3IMRC_M	r3imrc_m: w3 R Immediate Word Recall 0-8	Cont
4	R4IMRC_M	r4imrc_m: w4 R Immediate Word Recall 0-8	Cont
1	S1IMRC_M	s1imrc_m: w1 S Immediate Word Recall 0-8	Cont
2	S2IMRC_M	s2imrc_m: w2 S Immediate Word Recall 0-8	Cont
3	S3IMRC_M	s3imrc_m: w3 S Immediate Word Recall 0-8	Cont
4	S4IMRC_M	s4imrc_m: w4 S Immediate Word Recall 0-8	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IMRC_M	13392	4.77	1.25	0.00	8.00
R2IMRC_M	12129	4.38	1.48	0.00	8.00
R3IMRC_M	14048	4.79	1.25	0.00	8.00
R4IMRC_M	13722	4.77	1.25	0.00	8.00
S1IMRC_M	9491	4.85	1.22	0.00	8.00
S2IMRC_M	8479	4.47	1.45	0.00	8.00
S3IMRC_M	9601	4.87	1.20	0.00	8.00
S4IMRC_M	9129	4.84	1.21	0.00	8.00

### How Constructed

RwIMRC\_M is an MHAS specific variable that provides the measure for immediate verbal recall. Respondents were asked to listen to a list of eight words and repeat as many as they could remember. Respondents are given three consecutive trials and the number of recalled words is recorded. RwIMRC\_M is the mean of the score from all the three trials. RwIMRC\_M is set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, and .m if they didn't complete the section but completed the rest of the interview. The variable is set to plain missing (.) for respondents who did not respond to the current wave. In Waves 1 and 2, RwIMRC\_M was also set to .s if the cognition section was skipped because the language of the interview was different from Spanish.

SwIMRC\_M is taken from the Wave 'w' spouse's value for RwIMRC\_M, respectively. In addition to the special missing codes used in RwIMRC\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the verbal recall list contains only 8 words.

### MHAS Variables Used

Wave 1:

E11_1I	total list a - trial 1
E11_2I	total list a - trial 2
E11_3I	total list a - trial 3
E11_4I	total list b - trial 1
E11_5I	total list b - trial 2
E11_6I	total list b - trial 3

Wave 2:

E9_A1_9	total list a - trial 1
E9_A2_9	total list a - trial 2

E9_A3_9	total list a - trial 3
E9_B1_9	total list b - trial 1
E9_B2_9	total list b - trial 2
E9_B3_9	total list b - trial 3
Wave 3:	
E14A_12	Interviewer:Report respondent score for words recalled
E14B_12	Interviewer:Report respondent score for words recalled
E6_12	Interviewer:Identify List of Words that will be applied
E7A_1_12	Interviewer_Verbal..._List A_Trial 1:Rate the responden
E7A_2_12	Interviewer_Verbal..._List A_Trial 2:Rate the responden
E7A_3_12	Interviewer_Verbal..._List A_Trial 3:Rate the responden
E7B_1_12	Interviewer_Verbal..._List B_Trial 1:Rate the responden
E7B_2_12	Interviewer_Verbal..._List B_Trial 2:Rate the responden
E7B_3_12	Interviewer_Verbal..._List B_Trial 3:Rate the responden
Wave 4:	
E14A_15	Verbal Recall List A: Number of correct words
E14B_15	Verbal Recall List B: Number of correct words
E6_15	Interviewer: Identify List of Words that will be applie
E7A_1_15	Verbal Learning List A-Test 1: Number of correct words
E7A_2_15	Verbal Learning List A-Test 2: Number of correct words
E7A_3_15	Verbal Learning List A-Test 3: Number of correct words
E7B_1_15	Verbal Learning List B-Test 1: Number of correct words
E7B_2_15	Verbal Learning List B-Test 2: Number of correct words
E7B_3_15	Verbal Learning List B-Test 3: Number of correct words



<b>Delayed Word Recall</b>
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Wave	Variable	Label	Type
1	R1DLRC_M	r1dlrc_m: w1 R Delayed Word Recall 0-8	Cont
2	R2DLRC_M	r2dlrc_m: w2 R Delayed Word Recall 0-8	Cont
3	R3DLRC_M	r3dlrc_m: w3 R Delayed Word Recall 0-8	Cont
4	R4DLRC_M	r4dlrc_m: w4 R Delayed Word Recall 0-8	Cont
1	S1DLRC_M	s1dlrc_m: w1 S Delayed Word Recall 0-8	Cont
2	S2DLRC_M	s2dlrc_m: w2 S Delayed Word Recall 0-8	Cont
3	S3DLRC_M	s3dlrc_m: w3 S Delayed Word Recall 0-8	Cont
4	S4DLRC_M	s4dlrc_m: w4 S Delayed Word Recall 0-8	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DLRC_M	13392	5.15	1.85	0.00	8.00
R2DLRC_M	12128	4.32	1.88	0.00	8.00
R3DLRC_M	13979	4.45	2.05	0.00	8.00
R4DLRC_M	13698	4.20	2.14	0.00	8.00
S1DLRC_M	9491	5.23	1.81	0.00	8.00
S2DLRC_M	8479	4.40	1.84	0.00	8.00
S3DLRC_M	9567	4.55	2.00	0.00	8.00
S4DLRC_M	9115	4.31	2.09	0.00	8.00

### How Constructed

RwDLRC\_M is an MHAS specific variable that provides the measure for delayed verbal recall. Respondents were asked to repeat as many of the words as they could remember from the list provided in immediate verbal recall task. In the delayed recall task, respondents are given only one trial. RwDLRC\_M is set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, and .m if they didn't complete the section but completed the rest of the interview. The variable is set to plain missing (.) for respondents who did not respond to the current wave. In Waves 1 and 2, RwDLRC\_M was also set to .s if the cognition section was skipped because the language of the interview was different from Spanish.

SwDLRC\_M is taken from the Wave 'w' spouse's value for RwDLRC\_M, respectively. In addition to the special missing codes used in RwDLRC\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the verbal recall list contains only 8 words.

### MHAS Variables Used

Wave 1:

E14\_1I total list a  
E14\_2I total list b

Wave 2:

E12A\_9 total list a  
E12B\_9 total list b

Wave 3:

E14A\_12 Interviewer:Report respondent score for words recalled  
E14B\_12 Interviewer:Report respondent score for words recalled  
E6\_12 Interviewer:Identify List of Words that will be applied

Wave 4:

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E14A_15	Verbal Recall List A: Number of correct words
E14B_15	Verbal Recall List B: Number of correct words
E6_15	Interviewer: Identify List of Words that will be applie

<b>Summary Scores</b>
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Wave	Variable	Label	Type
1	R1TR8_M	r1tr8_m: w1 R Word Recall Summary Score 0-16	Cont
2	R2TR8_M	r2tr8_m: w2 R Word Recall Summary Score 0-16	Cont
3	R3TR8_M	r3tr8_m: w3 R Word Recall Summary Score 0-16	Cont
4	R4TR8_M	r4tr8_m: w4 R Word Recall Summary Score 0-16	Cont
1	S1TR8_M	s1tr8_m: w1 S Word Recall Summary Score 0-16	Cont
2	S2TR8_M	s2tr8_m: w2 S Word Recall Summary Score 0-16	Cont
3	S3TR8_M	s3tr8_m: w3 S Word Recall Summary Score 0-16	Cont
4	S4TR8_M	s4tr8_m: w4 S Word Recall Summary Score 0-16	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1TR8_M	13404	9.91	2.85	0.00	16.00
R2TR8_M	12129	8.70	3.11	0.00	16.00
R3TR8_M	13979	9.26	2.98	0.00	16.00
R4TR8_M	13698	8.97	3.08	0.00	16.00
S1TR8_M	9502	10.07	2.78	0.00	16.00
S2TR8_M	8479	8.87	3.03	0.00	16.00
S3TR8_M	9567	9.42	2.88	0.00	16.00
S4TR8_M	9115	9.14	2.99	0.00	16.00

### How Constructed

RwTR8\_M is the summary score for the total word recall and it is derived from RwIMRC\_M and RwDLRC\_M. The total score ranges from 0 to 16.

RwTR8\_M = sum (RwIMRC\_M, RwDLRC\_M).

RwTR8\_M is set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, and .m if they didn't complete the section but completed the rest of the interview. The variable is set to plain missing (.) for respondents who did not respond to the current wave. In Waves 1 and 2, RwTR8\_M was also set to .s if the cognition section was skipped because the language of the interview was different from Spanish.

SwTR8\_M is taken from the Wave 'w' spouse's value RwTR8\_M, respectively. In addition to the special missing codes used in RwTR8\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the verbal recall list contains only 8 words.

### MHAS Variables Used

Wave 1:

E11_1I	total list a - trial 1
E11_2I	total list a - trial 2
E11_3I	total list a - trial 3
E11_4I	total list b - trial 1
E11_5I	total list b - trial 2
E11_6I	total list b - trial 3
E14_1I	total list a
E14_2I	total list b

## Wave 2:

E12A_9	total list a
E12B_9	total list b
E9_A1_9	total list a - trial 1
E9_A2_9	total list a - trial 2
E9_A3_9	total list a - trial 3
E9_B1_9	total list b - trial 1
E9_B2_9	total list b - trial 2
E9_B3_9	total list b - trial 3

## Wave 3:

E14A_12	Interviewer:Report respondent score for words recalled
E14B_12	Interviewer:Report respondent score for words recalled
E6_12	Interviewer:Identify List of Words that will be applied
E7A_1_12	Interviewer_Verbal..._List A_Trial 1:Rate the responden
E7A_2_12	Interviewer_Verbal..._List A_Trial 2:Rate the responden
E7A_3_12	Interviewer_Verbal..._List A_Trial 3:Rate the responden
E7B_1_12	Interviewer_Verbal..._List B_Trial 1:Rate the responden
E7B_2_12	Interviewer_Verbal..._List B_Trial 2:Rate the responden
E7B_3_12	Interviewer_Verbal..._List B_Trial 3:Rate the responden

## Wave 4:

E14A_15	Verbal Recall List A: Number of correct words
E14B_15	Verbal Recall List B: Number of correct words
E6_15	Interviewer: Identify List of Words that will be applie
E7A_1_15	Verbal Learning List A-Test 1: Number of correct words
E7A_2_15	Verbal Learning List A-Test 2: Number of correct words
E7A_3_15	Verbal Learning List A-Test 3: Number of correct words
E7B_1_15	Verbal Learning List B-Test 1: Number of correct words
E7B_2_15	Verbal Learning List B-Test 2: Number of correct words
E7B_3_15	Verbal Learning List B-Test 3: Number of correct words

<b>Picture Drawing</b>
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Wave	Variable	Label	Type
1	R1IDRAW2	r1idraw2: w1 R Picture Drawing immediate 2 fig	Cont
2	R2IDRAW2	r2idraw2: w2 R Picture Drawing immediate 2 fig	Cont
1	S1IDRAW2	s1idraw2: w1 S Picture Drawing immediate 2 fig	Cont
2	S2IDRAW2	s2idraw2: w2 S Picture Drawing immediate 2 fig	Cont
3	R3IDRAW1	r3idraw1: w3 R Picture Drawing immediate 1 fig	Cont
4	R4IDRAW1	r4idraw1: w4 R Picture Drawing immediate 1 fig	Cont
3	S3IDRAW1	s3idraw1: w3 S Picture Drawing immediate 1 fig	Cont
4	S4IDRAW1	s4idraw1: w4 S Picture Drawing immediate 1 fig	Cont
1	R1DDRAW2	r1ddraw2: w1 R Picture Drawing delayed 2 fig	Cont
2	R2DDRAW2	r2ddraw2: w2 R Picture Drawing delayed 2 fig	Cont
1	S1DDRAW2	s1ddraw2: w1 S Picture Drawing delayed 2 fig	Cont
2	S2DDRAW2	s2ddraw2: w2 S Picture Drawing delayed 2 fig	Cont
3	R3DDRAW1	r3ddraw1: w3 R Picture Drawing delayed 1 fig	Cont
4	R4DDRAW1	r4ddraw1: w4 R Picture Drawing delayed 1 fig	Cont
3	S3DDRAW1	s3ddraw1: w3 S Picture Drawing delayed 1 fig	Cont
4	S4DDRAW1	s4ddraw1: w4 S Picture Drawing delayed 1 fig	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IDRAW2	12597	1.65	0.65	0.00	2.00
R2IDRAW2	10922	1.66	0.62	0.00	2.00
S1IDRAW2	9033	1.70	0.60	0.00	2.00
S2IDRAW2	7782	1.70	0.59	0.00	2.00
R3IDRAW1	13116	5.54	1.06	0.00	6.00
R4IDRAW1	12882	5.56	1.02	0.00	6.00
S3IDRAW1	9097	5.60	0.99	0.00	6.00
S4IDRAW1	8672	5.64	0.91	0.00	6.00
R1DDRAW2	12486	0.78	0.82	0.00	2.00
R2DDRAW2	10789	0.79	0.81	0.00	2.00
S1DDRAW2	8975	0.85	0.83	0.00	2.00
S2DDRAW2	7698	0.87	0.82	0.00	2.00
R3DDRAW1	12938	4.82	1.63	0.00	6.00
R4DDRAW1	12758	4.81	1.69	0.00	6.00
S3DDRAW1	9000	4.93	1.56	0.00	6.00
S4DDRAW1	8602	4.94	1.61	0.00	6.00

### How Constructed

RwIDRAW2, RwIDRAW1, RwDDRAW2, and RwDDRAW1 provide the score for the visuospatial tasks. RwIDRAW2 and RwDDRAW2, were only created for Wave 1 and 2 when respondents were presented two geometrical figures. After Wave 3, respondents were only presented one geometrical figure and asked to copy it within 90 seconds.

RwIDRAW2 and RwIDRAW1 indicate the immediate visuospatial task score after the respondents were presented the geometrical figures (or figure) and asked to copy the figures within 90 seconds, each figure. RwDDRAW2 and RwDDRAW1 indicate the delayed visuospatial task score after the respondents were asked to draw the figures (or figure) they were shown before within 90 seconds, each figure.

The variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, .c if the respondent could not do it, and .m if they didn't complete the section but completed the rest of the interview. The variables are also set to plain missing (.) for respondents who did not respond to the current wave. Rwidraw2, Rwidraw1, Rwddraw2, and Rwddraw1 were set to .s if the visuospatial tasks were skipped due to problems holding a pencil. In Waves 1 and 2, Rwidraw2 and Rwddraw2 were also set to .s if the cognition section was skipped because the language of the interview was different from Spanish.

Swidraw2, Swidraw1, Swddraw2, and Swddraw1 are taken from the Wave 'w' spouse's value for Rwidraw2, Rwidraw1, Rwddraw2, and Rwddraw1, respectively. In addition to the special missing codes used in Rwidraw2, Rwidraw1, Rwddraw2, and Rwddraw1, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

Since the visuospatial tasks changed across the waves, two variables were defined: Rwddraw2 and Rwddraw1. The changes include presenting two figures in Waves 1 and 2 and presenting only one figure starting in Wave 3. Also, starting in Wave 3 a new scoring was used to allow comparing the results between waves. The following equivalence will allow comparing the results in Rwddraw2 and Rwddraw1.

Rwddraw1 = 0, 1, or 2	is equal	Rwddraw2 = 0
Rwddraw1 = 3 or 4	is equal	Rwddraw2 = 1
Rwddraw1 = 5 or 6	is equal	Rwddraw2 = 2

## Differences with the RAND HRS/Harmonized HRS

The HRS does not include the visuospatial tasks.

## MHAS Variables Used

Wave 1:	
E13	visual figure recall - score
E8_E9	draw figure 1 - score
Wave 2:	
E11	visual figure recall - score
E6_E7	draw figure 1&2 - score
Wave 3:	
E13_12	Interviewer:Report respondent's ability to recall the f
E8_12	Interviewer:Report respondent 's ability to copy the fi
Wave 4:	
E13_15	Respondent's ability to recall the figure
E8_15	Respondent's ability to copy the figure

<b>Verbal Fluency</b>
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Wave	Variable	Label	Type
3	R3VERBF	r3verbf: w3 R Verbal Fluency Score	Cont
4	R4VERBF	r4verbf: w4 R Verbal Fluency Score	Cont
3	S3VERBF	s3verbf: w3 S Verbal Fluency Score	Cont
4	S4VERBF	s4verbf: w4 S Verbal Fluency Score	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3VERBF	14020	15.07	5.16	0.00	66.00
R4VERBF	13730	15.52	5.25	0.00	40.00
S3VERBF	9592	15.43	5.11	0.00	66.00
S4VERBF	9131	15.93	5.19	0.00	40.00

### How Constructed

RwVERBF is the verbal fluency score. Respondents were asked to name all the animals they can within a time span of one minute. Interviewers are asked to count the number of different animals the respondent was able to name. RwVERBF is the count of the number of different animal names. RwVERBF is assigned special missing values .d or .r, if Don't know or Refused, respectively. These variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, and .m if they didn't complete the section but completed the rest of the interview. The variable is plain missing (.) for respondents who did not respond to the current wave.

The verbal fluency questions were only asked after Wave 3 (2012).

SwVERBF is taken from the Wave 'w' spouse's value for RwVERBF. In addition to the special missing codes used in RwVERBF, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The verbal fluency questions were only asked starting in Wave 3 (2012).

### Differences with the RAND HRS/Harmonized HRS

Verbal fluency using animal naming questions was added to the HRS survey in 2010. A measure of verbal fluency is not currently included in the RAND HRS data set.

### MHAS Variables Used

Wave 3:	
E9A_12	Interviewer:Report the number of different animals the
Wave 4:	
E9A_15	Verbal Fluency: Number of different animals

**Visual Scanning**

Wave	Variable	Label	Type
1	R1VSCAN	r1vscan: w1 R Visual Scanning	Cont
2	R2VSCAN	r2vscan: w2 R Visual Scanning	Cont
3	R3VSCAN	r3vscan: w3 R Visual Scanning	Cont
4	R4VSCAN	r4vscan: w4 R Visual Scanning	Cont
1	S1VSCAN	s1vscan: w1 S Visual Scanning	Cont
2	S2VSCAN	s2vscan: w2 S Visual Scanning	Cont
3	S3VSCAN	s3vscan: w3 S Visual Scanning	Cont
4	S4VSCAN	s4vscan: w4 S Visual Scanning	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1VSCAN	12647	26.36	15.41	0.00	60.00
R2VSCAN	11583	25.18	15.79	0.00	60.00
R3VSCAN	13078	29.11	15.50	0.00	60.00
R4VSCAN	12858	29.34	15.91	0.00	60.00
S1VSCAN	9082	27.63	15.27	0.00	60.00
S2VSCAN	8162	26.49	15.72	0.00	60.00
S3VSCAN	9103	30.21	15.26	0.00	60.00
S4VSCAN	8666	30.83	15.53	0.00	60.00

**How Constructed**

RwVSCAN is the visual scanning score, ranging from 0 to 60. Respondents were asked to circle all figures that are identical to a specific stimulus shown previously within an array of different stimuli. Respondents were given 60 seconds to complete this task. RwVSCAN is assigned special missing values .d or .r, if Don't know or Refused, respectively. These variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, .c if the respondent could not do it, .n if the original variable was coded as "Not Specified", and .m if they didn't complete the section but completed the rest of the interview. The variable is plain missing (.) for respondents who did not respond to the current wave. RwVSCAN was set to .s if the visual scanning task was skipped due to problems holding a pencil. In Waves 1 and 2, RwVSCAN was also set to .s if the cognition section was skipped because the language of the interview was different from Spanish.

SwVSCAN is taken from the Wave 'w' spouse's value for RwVSCAN. In addition to the special missing codes used in RwVSCAN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

The HRS does not include the visual scanning task.

**MHAS Variables Used**

Wave 1:	
E10	list
Wave 2:	
E10	visual scanning - score
Wave 3:	
E10_12	Interviewer:Report the respondent's visual scanning sco
Wave 4:	
E10_15	Respondent's visual scanning score



**Backwards Counting From 20**

Wave	Variable	Label	Type
3	R3BWC20	r3bwc20: w3 R Backwards Counting From 20	Categ
4	R4BWC20	r4bwc20: w4 R Backwards Counting From 20	Categ
3	S3BWC20	s3bwc20: w3 S Backwards Counting From 20	Categ
4	S4BWC20	s4bwc20: w4 S Backwards Counting From 20	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R3BWC20	13443	1.78	0.59	0.00	2.00
R4BWC20	13158	1.76	0.62	0.00	2.00
S3BWC20	9275	1.82	0.54	0.00	2.00
S4BWC20	8833	1.81	0.57	0.00	2.00

**Categorical Variable Codes**

Value	R3BWC20	R4BWC20
.m:Missing	142	
.n:not specified	3	
.p:Proxy interview, not asked	1275	929
.r:Refuse	860	692
0.Incorrect	1193	1376
1.Correct, 2nd try	564	360
2.Correct, 1st try	11686	11422

Value	S3BWC20	S4BWC20
.m:Missing	91	
.n:not specified	3	
.p:Proxy interview, not asked	726	470
.r:Refuse	497	349
.u:Unmar	4782	4847
.v:SP NR	349	280
0.Incorrect	657	740
1.Correct, 2nd try	370	208
2.Correct, 1st try	8248	7885

**How Constructed**

RwBWC20 indicates whether the respondent was able to successfully count backwards for 10 continuous numbers from 20. Two points are given if successful on the first try, one if successful on the second try, and zero if not successful on either try. RwBWC20 is assigned special missing values .d or .r, if Don't know or Refused, respectively. These variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, .n if the answer was "Not specified", and .m if they didn't complete the section but completed the rest of the interview. The variable is plain missing (.) for respondents who did not respond to the current wave.

The backwards counting questions were only asked in Waves 3 and 4 (2012 and 2015).

SwBWC20 is taken from the Wave 'w' spouse's value for RwBWC20. In addition to the special missing codes used in RwBWC20, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

**Cross Wave Differences in MHAS**

The backwards counting questions were only asked in Waves 3 and 4 (2012 and 2015).

**Differences with the RAND HRS/Harmonized HRS**

Different from the HRS, in the MHAS the backwards counting questions only included counting back from 20, whereas the HRS also asks counting from 86.

**MHAS Variables Used**

Wave 3:

E12A\_12 Interviewer:Report the respondent's first attempt at nu

E12B\_12 Interviewer:Report the respondent's second attempt at n

Wave 4:

E12A\_15 Numeracy: Respondent's first attempt

E12B\_15 Numeracy: Respondent's second attempt

<b>Date Naming/Orientation</b>
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Wave	Variable	Label	Type
2	R2DY	r2dy: w2 R Date Naming: Day of the Month	Categ
3	R3DY	r3dy: w3 R Date Naming: Day of the Month	Categ
4	R4DY	r4dy: w4 R Date Naming: Day of the Month	Categ
2	S2DY	s2dy: w2 S Date Naming: Day of the Month	Categ
3	S3DY	s3dy: w3 S Date Naming: Day of the Month	Categ
4	S4DY	s4dy: w4 S Date Naming: Day of the Month	Categ
2	R2MO	r2mo: w2 R Date Naming: Month	Categ
3	R3MO	r3mo: w3 R Date Naming: Month	Categ
4	R4MO	r4mo: w4 R Date Naming: Month	Categ
2	S2MO	s2mo: w2 S Date Naming: Month	Categ
3	S3MO	s3mo: w3 S Date Naming: Month	Categ
4	S4MO	s4mo: w4 S Date Naming: Month	Categ
2	R2YR	r2yr: w2 R Date Naming: Year	Categ
3	R3YR	r3yr: w3 R Date Naming: Year	Categ
4	R4YR	r4yr: w4 R Date Naming: Year	Categ
2	S2YR	s2yr: w2 S Date Naming: Year	Categ
3	S3YR	s3yr: w3 S Date Naming: Year	Categ
4	S4YR	s4yr: w4 S Date Naming: Year	Categ
2	R2ORIENT_M	r2orient_m: w2 R Date Naming Correctness	Categ
3	R3ORIENT_M	r3orient_m: w3 R Date Naming Correctness	Categ
4	R4ORIENT_M	r4orient_m: w4 R Date Naming Correctness	Categ
2	S2ORIENT_M	s2orient_m: w2 S Date Naming Correctness	Categ
3	S3ORIENT_M	s3orient_m: w3 S Date Naming Correctness	Categ
4	S4ORIENT_M	s4orient_m: w4 S Date Naming Correctness	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2DY	12491	0.73	0.45	0.00	1.00
R3DY	14117	0.75	0.43	0.00	1.00
R4DY	13767	0.72	0.45	0.00	1.00
S2DY	8725	0.75	0.43	0.00	1.00
S3DY	9647	0.77	0.42	0.00	1.00
S4DY	9153	0.74	0.44	0.00	1.00
R2MO	12491	0.90	0.30	0.00	1.00
R3MO	14116	0.91	0.28	0.00	1.00
R4MO	13767	0.91	0.29	0.00	1.00
S2MO	8725	0.91	0.28	0.00	1.00
S3MO	9647	0.93	0.26	0.00	1.00
S4MO	9153	0.92	0.27	0.00	1.00
R2YR	12491	0.82	0.39	0.00	1.00
R3YR	14108	0.82	0.38	0.00	1.00
R4YR	13767	0.81	0.39	0.00	1.00
S2YR	8725	0.85	0.36	0.00	1.00
S3YR	9643	0.85	0.36	0.00	1.00
S4YR	9153	0.84	0.37	0.00	1.00
R2ORIENT_M	12491	2.45	0.89	0.00	3.00
R3ORIENT_M	14123	2.48	0.82	0.00	3.00
R4ORIENT_M	13762	2.44	0.86	0.00	3.00

S2ORIENT_M	8725	2.51	0.85	0.00	3.00
S3ORIENT_M	9652	2.54	0.77	0.00	3.00
S4ORIENT_M	9150	2.50	0.80	0.00	3.00

### Categorical Variable Codes

Value-----	R2DY	R3DY	R4DY
.m:Missing	24	139	
.n:not specified		31	
.p:Proxy interview, not asked	1178	1275	929
.r:Refuse		161	83
.s:Skip	11		
0.Incorrect	3432	3542	3819
1.Correct	9059	10575	9948

Value-----	S2DY	S3DY	S4DY
.m:Missing	9	89	
.n:not specified		23	
.p:Proxy interview, not asked	821	726	470
.r:Refuse		107	29
.s:Skip	9		
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.Incorrect	2194	2243	2346
1.Correct	6531	7404	6807

Value-----	R2MO	R3MO	R4MO
.m:Missing	24	139	
.n:not specified		32	
.p:Proxy interview, not asked	1178	1275	929
.r:Refuse		161	83
.s:Skip	11		
0.Incorrect	1231	1215	1285
1.Correct	11260	12901	12482

Value-----	S2MO	S3MO	S4MO
.m:Missing	9	89	
.n:not specified		23	
.p:Proxy interview, not asked	821	726	470
.r:Refuse		107	29
.s:Skip	9		
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.Incorrect	757	715	750
1.Correct	7968	8932	8403

Value-----	R2YR	R3YR	R4YR
.m:Missing	24	139	
.n:not specified		40	
.p:Proxy interview, not asked	1178	1275	929
.r:Refuse		161	83
.s:Skip	11		
0.Incorrect	2261	2521	2635
1.Correct	10230	11587	11132

Value-----	S2YR	S3YR	S4YR
.m:Missing	9	89	
.n:not specified		27	
.p:Proxy interview, not asked	821	726	470
.r:Refuse		107	29
.s:Skip	9		
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.Incorrect	1320	1462	1462
1.Correct	7405	8181	7691

Value-----	R2ORIENT_M	R3ORIENT_M	R4ORIENT_M
.m:Missing	24	145	5
.n:not specified		19	
.p:Proxy interview, not asked	1178	1275	929
.r:Refuse		161	83
.s:Skip	11		
0.All incorrect	872	683	776
1.One of combination correct	842	936	1024
2.Two of combination correct	2624	3390	3349

Value-----	S2ORIENT_M	S3ORIENT_M	S4ORIENT_M
3.All correct	8153	9114	8613
.m:Missing	9	93	3
.n:not specified		14	
.p:Proxy interview, not asked	821	726	470
.r:Refuse		107	29
.s:Skip	9		
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.All incorrect	517	356	414
1.One of combination correct	486	573	566
2.Two of combination correct	1748	2230	2176
3.All correct	5974	6493	5994

## How Constructed

RwDY, RwMO, and RwYR indicate whether the respondent was able to report the date (when the interview took place) correctly, including day of the month, month, and year, respectively. Each of these variables is code 1 for a correct answer and 0 for an incorrect answer. RwORIENT\_M indicates the orientation to day of the month, month, and year. It is an MHAS specific variable and the summary measure for these 3 variables. RwORIENT\_M ranges from 0 to 3, the higher the better oriented. These variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, .n if the answer was "Not specified", and .m if they didn't complete the section but completed the rest of the interview. The variables are plain missing (.) for respondents who did not respond to the current wave.

The orientation questions were only asked after Wave 2 (2003).

SwDY, SwMO, SwYR, and SwORIENT\_M are taken from the Wave 'w' spouse's value for RwDY, RwMO, RwYR, and RwORIENT\_M respectively. In addition to the special missing codes used in RwDY, RwMO, RwYR, and RwORIENT\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The orientation questions were only asked starting in Wave 2 (2003).

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS respondents are not asked to report the day of the week.

## MHAS Variables Used

### Wave 2:

E13A respondent recalled day correctly  
 E13B respondent recalled month correctly  
 E13C respondent recalled year correctly

### Wave 3:

E11A\_12 Interviewer:Report if respondent correctly identified t  
 E11B\_12 Interviewer:Report if respondent correctly identified t  
 E11C\_12 Interviewer:Report if respondent correctly identified t

### Wave 4:

E11A\_15 Respondent correctly identified the day  
 E11B\_15 Respondent correctly identified the month  
 E11C\_15 Respondent correctly identified the year

**Date Naming/Orientation**

Wave	Variable	Label	Type
4	R4SER7	r4ser7: w4 R Serial 7's number of correct subtractions	Cont
4	S4SER7	s4ser7: w4 S Serial 7's number of correct subtractions	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R4SER7	13549	2.41	1.85	0.00	5.00
S4SER7	9039	2.58	1.84	0.00	5.00

**How Constructed**

RwSER7 provides the numbers of correct subtractions in the serial 7's test. This test asks the individual to subtract 7 from the prior number, 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. For more information please see the 2001-2015 Cognitive Function Measures document ([here](#)). Don't know, refused, or other missings values for RwSER7 are assigned special missing codes .d, .r, .m, respectively. RwSER7 is set to special missing .p if the cognition questions were skipped because the interview was by proxy. RwSER7 is set to plain missing (.) for respondents who did not respond to this wave.

SwSER7 provides the current wave's spouse numbers of correct subtractions in the serial 7's test and is taken directly from the spouse's value to RwSER7. In addition to the special missing codes used in RwSER7, SwSER7 employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

**Cross Wave Differences in MHAS**

These serial 7's question was only asked in wave 4.

**Differences with the RAND HRS/Harmonized HRS**

No differences known.

**MHAS Variables Used**

Wave 4:

SERIAL7\_15                    mhas executive function - series of subtractions 7 from 100

## **Section E: Financial and Housing Wealth**

**Inflation Multiplier**

Wave	Variable	Label	Type
1	C2000CPINDEX	2000 consumer price index, 2010=100	Cont
1	C2001CPINDEX	2001 consumer price index, 2010=100	Cont
1	C2002CPINDEX	2002 consumer price index, 2010=100	Cont
1	C2003CPINDEX	2003 consumer price index, 2010=100	Cont
1	C2011CPINDEX	2011 consumer price index, 2010=100	Cont
1	C2012CPINDEX	2012 consumer price index, 2010=100	Cont
1	C2013CPINDEX	2013 consumer price index, 2010=100	Cont
1	C2014CPINDEX	2014 consumer price index, 2010=100	Cont
1	C2015CPINDEX	2015 consumer price index, 2010=100	Cont
1	C2016CPINDEX	2016 consumer price index, 2010=100	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
C2000CPINDEX	22016	63.30	0.00	63.30	63.30
C2001CPINDEX	22016	67.30	0.00	67.30	67.30
C2002CPINDEX	22016	70.70	0.00	70.70	70.70
C2003CPINDEX	22016	73.90	0.00	73.90	73.90
C2011CPINDEX	22016	103.40	0.00	103.40	103.40
C2012CPINDEX	22016	107.70	0.00	107.70	107.70
C2013CPINDEX	22016	111.80	0.00	111.80	111.80
C2014CPINDEX	22016	116.20	0.00	116.20	116.20
C2015CPINDEX	22016	119.40	0.00	119.40	119.40
C2016CPINDEX	22016	122.80	0.00	122.80	122.80

**How Constructed**

CyyyyCPINDEX is the annual consumer price index for the year of the survey. CyyyyCPINDEX uses 2010 as its base year so the consumer price index for a survey conducted in 2010 would be 100. This consumer price index can be used as an inflation multiplier when comparing financial values between different survey years.

CyyyyCPINDEX values were provided by the OECD as part of the Consumer Price (MEI) dataset. The index measures monthly changes in the general level of prices of goods and services that households acquire for consumption. For more information on the calculation of the consumer price index see <http://stats.oecd.org>.

**Cross Wave Differences in MHAS**

Consumer price index values are not based on any MHAS survey question.

**Differences with the RAND HRS/Harmonized HRS**

Consumer price index values are not included in the RAND HRS.



**Net Value of Real Estate (Not Primary Residence)**

Wave	Variable	Label	Type
1	H1ARLES	h1arles:w1 assets: other real estate	Cont
2	H2ARLES	h2arles:w2 assets: other real estate	Cont
3	H3ARLES	h3arles:w3 assets: other real estate	Cont
4	H4ARLES	h4arles:w4 assets: other real estate	Cont
1	H1AFRLES	h1afrles:w1 asst flag: other real estate	Categ
2	H2AFRLES	h2afrles:w2 asst flag: other real estate	Categ
3	H3AFRLES	h3afrles:w3 asst flag: other real estate	Categ
4	H4AFRLES	h4afrles:w4 asst flag: other real estate	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ARLES	15611	55707.81	338681.05	0.00	15555548.00
H2ARLES	14030	63433.18	340739.22	0.00	12000000.00
H3ARLES	15723	104576.20	487750.50	0.00	18140548.00
H4ARLES	14899	237376.98	1859935.57	0.00	80000000.00
H1AFRLES	15671	0.05	0.23	-1.00	1.00
H2AFRLES	14063	0.05	0.22	-1.00	1.00
H3AFRLES	15723	0.07	0.25	0.00	1.00
H4AFRLES	14933	0.04	0.22	-1.00	1.00

**Categorical Variable Codes**

Value-----	H1AFRLES	H2AFRLES	H3AFRLES	H4AFRLES
-1.No Imput:section not complete	59	33		34
0.Not imputed	14777	13339	14625	14195
1.Imputed	835	691	1098	704

**How Constructed**

HwARLES captures the net value of other real estate at the household level. HwARLES includes the net value of a second home, the value of any other real estate property, and the debt on any other real estate property.

The selected respondent for the couple or the single respondent is asked whether "excluding properties that generate income, are you (or your spouse) owner of another house or condominium, including time shared apartments?". If the respondent answers yes, they are then asked if they were to sell the property and pay off any debt on this property, how much money would it be. This net value of the second home is included in HwARLES.

The informant for the subject or the couple is also asked whether "excluding your main house or second residence, do you (or your spouse) own any real estate property, such as land, vacant lots and/or properties for rent?". The respondent is able to mention up to 2 other properties. If the respondent reported having 1 or more properties, they are then asked for each property (up to 2 properties) if they have any outstanding debt on this property (these properties). If they do have debt, they are asked how much they still owe. All respondents who report having 1 or more properties are then asked, for each property (up to 2 properties) "if you were to sell the property now, how much would you receive for it?". The value of each property minus the debt owed on each property is included in HwARLES.

For each question eliciting a value included in HwARLES, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported neither a second home nor having any other real estate properties, HwARLES has a value of 0.

HwARLES is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwARLES was not imputed because the respondent did not complete the section. HwARLES is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFRLES is a flag variable indicating whether or not any component of HwARLES was imputed. A code of 0 indicates that no component of HwARLES was imputed. A code of 1 indicates that at least one component of HwARLES was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

HwARLES in the RAND HRS does not include the value of the second home. In the RAND HRS, the value of the second home is captured in HwANETHB. In the Harmonized MHAS, HwARLES includes both the value of other real estate and the value of second home.

There are differences in the questions about other real estate properties. In the HRS the net value of other real estate properties is asked in a single question. In the MHAS, one question is asked about the value and one question is asked about any debt on the other real estate property, for each property (up to 2 properties).

There are differences in the questions about the second home. In the HRS, one question is asked about the value and another question is asked about any debt on the second home. In the MHAS, a single question is asked about the net value of the second home.

Net value of other real estate in MHAS is measured in nominal pesos, whereas the equivalent measures in RAND HRS are in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMJ26	net value other houses/apartments (imputed)
IMAMK17_1	total debt other real estate properties_1 (imputed)
IMAMK17_2	total debt other real estate properties_2 (imputed)
IMAMK22_1	gross value other real estate properties_1 (imputed)
IMAMK22_2	gross value other real estate properties_2 (imputed)
J26IMP	if imputed value
K17_1IMP	if imputed value
K17_2IMP	if imputed value
K22_1IMP	if imputed value
K22_2IMP	if imputed value

### Wave 2:

IMAMJ33	net value other houses/apartments (imputed)
IMAMK19_1	total debt other real estate properties_1 (imputed)
IMAMK19_2	total debt other real estate properties_2 (imputed)
IMAMK24_1	gross value other real estate properties_1 (imputed)
IMAMK24_2	gross value other real estate properties_2 (imputed)
J33IMP	if imputed value
K19_1IMP	if imputed value
K19_2IMP	if imputed value
K24_1IMP	if imputed value
K24_2IMP	if imputed value

### Wave 3:

IMAMJ34_12	
IMAMK20_1_12	Total debt other real estate properties_1 (imputed)
IMAMK20_2_12	Total debt other real estate properties_2 (imputed)
IMAMK24_1_12	Gross value other real estate properties_1 (imputed)
IMAMK24_2_12	Gross value other real estate properties_2 (imputed)
J34_IMP_12	
K20_1_IMP_12	Total debt other real estate properties_1 (Flag if impu

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K20_2_IMP_12	Total debt other real estate properties_2 (Flag if impu
K24_1_IMP_12	Gross value other real estate properties_1 (Flag if imp
K24_2_IMP_12	Gross value other real estate properties_2 (Flag if imp

Wave 4:

IMAMJ34_15	Net value other houses/apartments (imputed)
IMAMK20_1_15	Total debt other real estate properties_1 (imputed)
IMAMK20_2_15	Total debt other real estate properties_2 (imputed)
IMAMK24_1_15	Gross value other real estate properties_1 (imputed)
IMAMK24_2_15	Gross value other real estate properties_2 (imputed)
J34_IMP_15	Net value other houses/apartments (Flag if imputed valu
K20_1_IMP_15	Total debt other real estate properties_1 (Flag if impu
K20_2_IMP_15	Total debt other real estate properties_2 (Flag if impu
K24_1_IMP_15	Gross value other real estate properties_1 (Flag if imp
K24_2_IMP_15	Gross value other real estate properties_2 (Flag if imp

<b>Net Value of Cars</b>
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Wave	Variable	Label	Type
1	H1ATRAN	h1atran:w1 assets: vehicles	Cont
2	H2ATRAN	h2atran:w2 assets: vehicles	Cont
3	H3ATRAN	h3atran:w3 assets: vehicles	Cont
4	H4ATRAN	h4atran:w4 assets: vehicles	Cont
1	H1AFTRAN	h1aftran:w1 asst flag: vehicles	Categ
2	H2AFTRAN	h2aftran:w2 asst flag: vehicles	Categ
3	H3AFTRAN	h3aftran:w3 asst flag: vehicles	Categ
4	H4AFTRAN	h4aftran:w4 asst flag: vehicles	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATRAN	15611	18205.01	67375.33	-115205.05	3000000.00
H2ATRAN	14032	17026.21	61103.75	-75598.20	2500000.00
H3ATRAN	15723	34134.90	152466.07	-236884.63	6150000.00
H4ATRAN	14899	31223.92	150389.95	-499247.13	9000000.00
H1AFTRAN	15670	0.04	0.22	-1.00	1.00
H2AFTRAN	14063	0.03	0.19	-1.00	1.00
H3AFTRAN	15723	0.07	0.26	0.00	1.00
H4AFTRAN	14933	0.05	0.22	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFTRAN	H2AFTRAN	H3AFTRAN	H4AFTRAN
-1.No Imput:section not complete	59	31		34
0.Not imputed	14852	13527	14571	14170
1.Imputed	759	505	1152	729

### How Constructed

HwATRAN captures the net value of vehicles at the household level. HwATRAN includes the value of any means of transportation and the debt on any means of transportation.

The informant for the subject or the couple is asked "are you (or your spouse) owner of any means of transportation for private or recreational use". If the respondent answers yes, they are then asked if they have any outstanding debt on these means of transportation. If they do have debt, they are asked how much they still owe. All respondents who report owning any means of transportation are also asked "if you were to sell them, about how much money would you receive?". HwATRAN is derived as the value minus the debt owed on any means of transportation.

For both questions eliciting a value included in HwATRAN, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.mhasweb.org](http://www.mhasweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not owning any means of transportation, HwATRAN has a value of 0.

HwATRAN is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwATRAN was not imputed because the respondent did not complete the section. HwATRAN is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTRAN is a flag variable indicating whether or not any component of HwATRAN was imputed. A code of 0 indicates that no component of HwATRAN was imputed. A code of 1 indicates that at least one

component of HwATRAN was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

There are differences in the questions about vehicles. In the HRS the net value of vehicles is asked in a single question. In the MHAS, one question is asked about the value and one question is asked about any debt.

Net value of vehicles in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMK36	gross value vehicles (imputed)
IMAMK37	total debt vehicles (imputed)
K36IMP	if imputed value
K37IMP	if imputed value

### Wave 2:

IMAMK38	gross value vehicles (imputed)
IMAMK39	total debt vehicles (imputed)
K38IMP	if imputed value
K39IMP	if imputed value

### Wave 3:

IMAMK40_12	Total debt vehicles (imputed)
IMAMK42_12	Gross value vehicles (imputed)
K40_IMP_12	Total debt vehicles (Flag if imputed value)
K42_IMP_12	Gross value vehicles (Flag if imputed value)

### Wave 4:

IMAMK40_15	Total debt vehicles (imputed)
IMAMK42_15	Gross value vehicles (imputed)
K40_IMP_15	Total debt vehicles (Flag if imputed value)
K42_IMP_15	Gross value vehicles (Flag if imputed value)

<b>Net Value of Businesses</b>
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Wave	Variable	Label	Type
1	H1ABSNS	h1absns:w1 assets: business	Cont
2	H2ABSNS	h2absns:w2 assets: business	Cont
3	H3ABSNS	h3absns:w3 assets: business	Cont
4	H4ABSNS	h4absns:w4 assets: business	Cont
1	H1AFBSNS	h1afbsns:w1 asst flag: business	Categ
2	H2AFBSNS	h2afbsns:w2 asst flag: business	Categ
3	H3AFBSNS	h3afbsns:w3 asst flag: business	Categ
4	H4AFBSNS	h4afbsns:w4 asst flag: business	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ABSNS	15611	66728.51	330299.19	-777776.00	12452776.00
H2ABSNS	14032	74024.08	365321.03	-999980.00	10944902.00
H3ABSNS	15723	76181.10	407001.68	-2981432.25	10000000.00
H4ABSNS	14899	231085.40	1808731.81	-440000.00	70000000.00
H1AFBSNS	15670	0.11	0.33	-1.00	1.00
H2AFBSNS	14063	0.12	0.33	-1.00	1.00
H3AFBSNS	15723	0.07	0.25	0.00	1.00
H4AFBSNS	14933	0.07	0.26	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFBSNS	H2AFBSNS	H3AFBSNS	H4AFBSNS
-1.No Imput:section not complete	59	31		34
0.Not imputed	13783	12336	14629	13892
1.Imputed	1828	1696	1094	1007

### How Constructed

HwABSNS captures the net value of businesses at the household level. HwABSNS includes the value of any businesses or farms and the debt on any businesses or farms.

The informant for the subject or the couple is asked "Do you (and/or spouse) own a business or farm?". The respondent is able to mention up to 2 other businesses/farms. If the respondent reported having 1 or more businesses/farms, they are then asked for each business/farm (up to 2 businesses/farms) if they have any outstanding debt on this business/farm. If they do have debt, they are asked how much they still owe. All respondents who report having 1 or more businesses/farms are then asked, for each business/farm (up to 2 businesses/farms) "If you were to sell your business now, how much would you (or your spouse) receive for it?". The value of each business/farm minus the debt owed on each business/farm is included in HwABSNS.

For each question eliciting a value included in HwABSNS, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not owning any business or farm, HwABSNS has a value of 0.

HwABSNS is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwABSNS was not imputed because the respondent did not complete the section. HwABSNS is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFBSNS is a flag variable indicating whether or not any component of HwABSNS was imputed. A code of 0 indicates that no component of HwABSNS was imputed. A code of 1 indicates that at least one

component of HwABSNS was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

There are differences in the questions about businesses/farms. In the HRS the net value of businesses/farms is asked in a single question. In the MHAS, one question is asked about the value and one question is asked about any debt on the business/farm, for each business/farm (up to 2 businesses/farms).

Net value of business in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 2:

IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 3:

IMAMK4_1_12	Total debt business_1 (imputed)
IMAMK4_2_12	Total debt business_2 (imputed)
IMAMK8_1_12	Gross value business_1 (imputed)
IMAMK8_2_12	Gross value business_2 (imputed)
K4_1_IMP_12	Total debt business_1 (Flag if imputed value)
K4_2_IMP_12	Total debt business_2 (Flag if imputed value)
K8_1_IMP_12	Gross value business_1 (Flag if imputed value)
K8_2_IMP_12	Gross value business_2 (Flag if imputed value)

### Wave 4:

IMAMK4_1_15	Total debt business_1 (imputed)
IMAMK4_2_15	Total debt business_2 (imputed)
IMAMK8_1_15	Gross value business_1 (imputed)
IMAMK8_2_15	Gross value business_2 (imputed)
K4_1_IMP_15	Total debt business_1 (Flag if imputed value)
K4_2_IMP_15	Total debt business_2 (Flag if imputed value)
K8_1_IMP_15	Gross value business_1 (Flag if imputed value)
K8_2_IMP_15	Gross value business_2 (Flag if imputed value)

**Value of Stocks, Shares, and Bonds**

Wave	Variable	Label	Type
1	H1ABDSTK	h1abdstk:w1 assets: bonds and stocks	Cont
2	H2ABDSTK	h2abdstk:w2 assets: bonds and stocks	Cont
3	H3ABDSTK	h3abdstk:w3 assets: bonds and stocks	Cont
4	H4ABDSTK	h4abdstk:w4 assets: bonds and stocks	Cont
1	H1AFBDSTK	h1afbdstk:w1 asst flag: bonds and stocks	Categ
2	H2AFBDSTK	h2afbdstk:w2 asst flag: bonds and stocks	Categ
3	H3AFBDSTK	h3afbdstk:w3 asst flag: bonds and stocks	Categ
4	H4AFBDSTK	h4afbdstk:w4 asst flag: bonds and stocks	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ABDSTK	15611	166.53	5967.77	0.00	600000.00
H2ABDSTK	14032	719.16	22992.38	0.00	1000000.00
H3ABDSTK	15723	1560.39	46639.88	0.00	1500000.00
H4ABDSTK	14899	10272.78	436241.85	0.00	35000000.00
H1AFBDSTK	15670	-0.00	0.07	-1.00	1.00
H2AFBDSTK	14063	-0.00	0.06	-1.00	1.00
H3AFBDSTK	15723	0.01	0.08	0.00	1.00
H4AFBDSTK	14933	0.00	0.09	-1.00	1.00

**Categorical Variable Codes**

Value-----	H1AFBDSTK	H2AFBDSTK	H3AFBDSTK	H4AFBDSTK
-1.No Imput:section not complete	59	31		34
0.Not imputed	15592	14020	15632	14810
1.Imputed	19	12	91	89

**How Constructed**

HwABDSTK captures the value of stocks, shares, and bonds at the household level. HwABDSTK includes the value of any stocks, company share, or bonds.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have stocks, company shares or bonds?". If the respondent answers yes, they are then asked if "Adding up all these accounts, what is the approximate total value?". HwABDSTK captures this reported value of stocks, shares, and bonds.

For the question eliciting a value used in HwABDSTK, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackPlease see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any stocks, shares, or bonds, HwABDSTK has a value of 0.

HwABDSTK is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwABDSTK was not imputed because the respondent did not complete the section. HwABDSTK is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFBDSTK is a flag variable indicating whether or not any component of HwABDSTK was imputed. A code of 0 indicates that no component of HwABDSTK was imputed. A code of 1 indicates that at least one component of HwABDSTK was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.



## Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

HwABDSTK is a summary variable, which is specific to MHAS, and is not available in the RAND HRS. In the RAND HRS, the value of shares of stock or stock mutual funds is captured in HwASTCK, the value of CDs, government savings bonds, and treasuries bills is captured in HwACD, the net value of corporate, municipal, government, or foreign bonds, or any bond funds is captured in HwABOND.

The MHAS elicits the value of CD's in the same question as the value of checking and savings accounts, this value is captured in HwACHCK.

The MHAS does not specifically elicit the value of mutual funds though MHAS does ask respondents to report any other assets not specifically asked, this value is captured in HwAOTHR.

Value of stocks, shares, and bonds in MHAS is measured in nominal pesos, whereas the equivalent measures in RAND HRS are in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

### MHAS Variables Used

Wave 1:

IMAMK29C net capital assets\_3 (imputed)  
K29CIMP if imputed value

Wave 2:

IMAMK31\_3 net capital assets\_3 (imputed)  
K31\_3IMP if imputed value

Wave 3:

IMAMK33\_3\_12 Net value capital assets\_3 (imputed)  
K33\_3\_IMP\_12 Net value capital assets\_3 (Flag if imputed value)

Wave 4:

IMAMK33\_3\_15 Net value capital assets\_3 (imputed)  
K33\_3\_IMP\_15 Net value capital assets\_3 (Flag if imputed value)

**Value of Checking, Savings Accounts**

Wave	Variable	Label	Type
1	H1ACHCK	h1achck:w1 assets: checking,savings acct	Cont
2	H2ACHCK	h2achck:w2 assets: checking,savings acct	Cont
3	H3ACHCK	h3achck:w3 assets: checking,savings acct	Cont
4	H4ACHCK	h4achck:w4 assets: checking,savings acct	Cont
1	H1AFCHCK	h1afchck:w1 asst flag: checking,savings acct	Categ
2	H2AFCHCK	h2afchck:w2 asst flag: checking,savings acct	Categ
3	H3AFCHCK	h3afchck:w3 asst flag: checking,savings acct	Categ
4	H4AFCHCK	h4afchck:w4 asst flag: checking,savings acct	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ACHCK	15611	6697.73	36862.90	0.00	777776.00
H2ACHCK	14032	25572.37	199587.49	0.00	777776.00
H3ACHCK	15723	12378.21	125786.38	0.00	5000000.00
H4ACHCK	14899	22874.10	241364.38	0.00	10000000.00
H1AFCHCK	15670	0.03	0.19	-1.00	1.00
H2AFCHCK	14063	0.02	0.16	-1.00	1.00
H3AFCHCK	15723	0.03	0.18	0.00	1.00
H4AFCHCK	14933	0.02	0.17	-1.00	1.00

**Categorical Variable Codes**

Value-----	H1AFCHCK	H2AFCHCK	H3AFCHCK	H4AFCHCK
-1.No Imput:section not complete	59	31		34
0.Not imputed	15089	13678	15216	14516
1.Imputed	522	354	507	383

**How Constructed**

HwACHCK captures the value of checking or savings account or fixed investment at the household level. HwACHCK includes the value of any checking or savings account or fixed investment.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have checking or saving accounts, or fixed investment?". If the respondent answers yes, they are then asked if "Adding up all these accounts, what is the approximate total value?". HwACHCK captures this reported value of checking or savings account or fixed investment.

For the question eliciting a value used in HwACHCK, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any checking or savings account or fixed investment, HwACHCK has a value of 0.

HwACHCK is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwACHCK was not imputed because the respondent did not complete the section. HwACHCK is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFCHCK is a flag variable indicating whether or not any component of HwACHCK was imputed. A code of 0 indicates that no component of HwACHCK was imputed. A code of 1 indicates that at least one component of HwACHCK was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked the value of checking, savings, or money market funds. In the MHAS, respondents are asked the value of checking, savings, and fixed investments. In the RAND HRS, fixed investments in the form of CDs are captured in HwACD.

The MHAS does not specifically elicit the value of money market funds though MHAS does ask respondents to report any other assets not specifically asked, this value is captured in HwAOTHR.

Net value of checking and savings account in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

### MHAS Variables Used

Wave 1:

IMAMK29A net capital assets\_1 (imputed)  
K29AIMP if imputed value

Wave 2:

IMAMK31\_1 net capital assets\_1 (imputed)  
K31\_1IMP if imputed value

Wave 3:

IMAMK33\_1\_12 Net value capital assets\_1 (imputed)  
K33\_1\_IMP\_12 Net value capital assets\_1 (Flag if imputed value)

Wave 4:

IMAMK33\_1\_15 Net value capital assets\_1 (imputed)  
K33\_1\_IMP\_15 Net value capital assets\_1 (Flag if imputed value)

<b>Value of Other Assets</b>
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Wave	Variable	Label	Type
1	H1AOTHR	h1aothr:w1 assets: other assets	Cont
2	H2AOTHR	h2aothr:w2 assets: other assets	Cont
3	H3AOTHR	h3aothr:w3 assets: other assets	Cont
4	H4AOTHR	h4aothr:w4 assets: other assets	Cont
1	H1AFOTHR	h1afothr:w1 asst flag: other assets	Categ
2	H2AFOTHR	h2afothr:w2 asst flag: other assets	Categ
3	H3AFOTHR	h3afothr:w3 asst flag: other assets	Categ
4	H4AFOTHR	h4afothr:w4 asst flag: other assets	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1AOTHR	15611	48743.74	155256.41	0.00	7000000.00
H2AOTHR	14032	42499.68	140978.47	0.00	5000000.00
H3AOTHR	15723	113818.13	375923.99	0.00	9000000.00
H4AOTHR	14899	92494.88	286911.81	0.00	8000000.00
H1AFOTHR	15670	0.25	0.44	-1.00	1.00
H2AFOTHR	14063	0.23	0.43	-1.00	1.00
H3AFOTHR	15723	0.30	0.46	0.00	1.00
H4AFOTHR	14933	0.23	0.42	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFOTHR	H2AFOTHR	H3AFOTHR	H4AFOTHR
-1.No Imput:section not complete	59	31		34
0.Not imputed	11697	10749	11004	11481
1.Imputed	3914	3283	4719	3418

### How Constructed

HwAOTHR captures the value of other assets at the household level. HwAOTHR includes the value of all assets not already mentioned.

The informant for the subject or the couple is asked "In case of a family emergency in which you had to sell all the assets you have not mentioned, about how much money would you receive?". HwAOTHR captures this reported value of all assets not already mentioned.

For the question eliciting a value used in HwAOTHR, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

HwAOTHR is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwAOTHR was not imputed because the respondent did not complete the section. HwAOTHR is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFOTHR is a flag variable indicating whether or not any component of HwAOTHR was imputed. A code of 0 indicates that no component of HwAOTHR was imputed. A code of 1 indicates that at least one component of HwAOTHR was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

### Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked to report the value of "any other savings or assets, such as jewelry, money owed to you by others, a collection for investment purposes, rights in a trust or estate where you are the beneficiary, or an annuity that you haven't already told me about? [EXCLUDE THE CASH VALUE OF ANY LIFE INSURANCE POLICIES.]". In the MHAS, respondents are asked to report the value they would receive "In case of a family emergency in which you had to sell all the assets you have not mentioned". This difference implies that what is captured in HwAOTHR in the Harmonized MHAS might differ conceptually from what is captured by HwAOTHR in the RAND HRS.

Value of other assets in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMK42	net value other assets (imputed)
K42IMP	if imputed value

### Wave 2:

IMAMK44	net value other assets (imputed)
K44IMP	if imputed value

### Wave 3:

IMAMK44_12	Net value other assets (imputed)
K44_IMP_12	Net value other assets (Flag if imputed value)

### Wave 4:

IMAMK44_15	Net value other assets (imputed)
K44_IMP_15	Net value other assets (Flag if imputed value)

**Value of Primary Residence**

Wave	Variable	Label	Type
1	H1AHOUS	h1ahous:w1 value of house/prim res	Cont
2	H2AHOUS	h2ahous:w2 value of house/prim res	Cont
3	H3AHOUS	h3ahous:w3 value of house/prim res	Cont
4	H4AHOUS	h4ahous:w4 value of house/prim res	Cont
1	H1AFHOUS	h1afhous:w1 flag: value of house/prim res	Categ
2	H2AFHOUS	h2afhous:w2 flag: value of house/prim res	Categ
3	H3AFHOUS	h3afhous:w3 flag: value of house/prim res	Categ
4	H4AFHOUS	h4afhous:w4 flag: value of house/prim res	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1AHOUS	15619	205064.46	328336.45	0.00	7777776.00
H2AHOUS	14035	255614.21	377413.16	0.00	7777776.00
H3AHOUS	15723	546615.33	751852.54	0.00	9000000.00
H4AHOUS	14899	921593.25	1871855.97	0.00	40000000.00
H1AFHOUS	15672	0.29	0.46	-1.00	1.00
H2AFHOUS	14064	0.31	0.47	-1.00	1.00
H3AFHOUS	15723	0.41	0.49	0.00	1.00
H4AFHOUS	14933	0.30	0.46	-1.00	1.00

**Categorical Variable Codes**

Value-----	H1AFHOUS	H2AFHOUS	H3AFHOUS	H4AFHOUS
-1.No Imput:section not complete	53	29		34
0.Not imputed	11075	9596	9211	10421
1.Imputed	4544	4439	6512	4478

**How Constructed**

HwAHOUS captures the value of the primary residence at the household level. HwAHOUS includes the value of the lot and the house of the primary residence.

The informant for the subject or the couple is asked "This house/housing unit is rented, borrowed, your property or currently paying it off, or other?". If the respondent answers that the residence is borrowed, their property or currently paying it off, or other, they are then asked "Whose name appears on the property title?". If the respondent reported that either their, their spouse's names, or a relative's name (or any combination) is on the title of the residence or that there is no title, the respondent is then asked "About how much do you think your property is worth, including the lot and house? Or if it were sold today, about how much money would you receive from its sale?". HwAHOUS captures this reported value of the primary residence.

For the question eliciting a value used in HwAHOUS, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported that the residence was rented or that the name on the property title was only the name of a non-relative, HwAHOUS has a value of 0.

HwAHOUS is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwAHOUS was not imputed because the respondent did not complete the section. HwAHOUS is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFHOUS is a flag variable indicating whether or not any component of HwAHOUS was imputed. A code of 0 indicates that no component of HwAHOUS was imputed. A code of 1 indicates that at least one component of HwAHOUS was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are not asked about the names on the property title of the residence and every respondent who reported owning all or part of their residence are asked the value of the residence. In the MHAS, respondents who report that the name on the property title was only the name of a non-relative are not asked the value of the residence.

Value of primary residence in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

### MHAS Variables Used

Wave 1:

IMAMJ14            gross value houses/apartments (imputed)  
J14IMP            if imputed value

Wave 2:

IMAMJ31           gross value houses/apartments (imputed)  
J31IMP            if imputed value

Wave 3:

IMAMJ31\_12  
J31\_IMP\_12

Wave 4:

IMAMJ31\_15        Gross value houses/apartments (imputed)  
J31\_IMP\_15        Gross value houses/apartments (Flag if imputed value)

**Value of All Mortgages (Primary Residence)**

Wave	Variable	Label	Type
1	H1AMORT	h1amort:w1 value of mortgage/prim res	Cont
2	H2AMORT	h2amort:w2 value of mortgage/prim res	Cont
3	H3AMORT	h3amort:w3 value of mortgage/prim res	Cont
4	H4AMORT	h4amort:w4 value of mortgage/prim res	Cont
1	H1AFMORT	h1afmort:w1 flag: value of mortgage/prim res	Categ
2	H2AFMORT	h2afmort:w2 flag: value of mortgage/prim res	Categ
3	H3AFMORT	h3afmort:w3 flag: value of mortgage/prim res	Categ
4	H4AFMORT	h4afmort:w4 flag: value of mortgage/prim res	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1AMORT	15619	251.07	3904.09	0.00	230000.00
H2AMORT	14035	3851.03	34678.07	0.00	1500000.00
H3AMORT	15723	9739.43	113558.00	0.00	4200000.00
H4AMORT	14899	7603.53	52136.42	0.00	1000000.00
H1AFMORT	15672	0.01	0.14	-1.00	1.00
H2AFMORT	14064	0.01	0.14	-1.00	1.00
H3AFMORT	15723	0.01	0.12	0.00	1.00
H4AFMORT	14933	0.01	0.11	-1.00	1.00

**Categorical Variable Codes**

Value-----	H1AFMORT	H2AFMORT	H3AFMORT	H4AFMORT
-1.No Imput:section not complete	53	29		34
0.Not imputed	15367	13801	15508	14743
1.Imputed	252	234	215	156

**How Constructed**

HwAMORT captures the value of mortgages on the primary residence at the household level. HwAMORT includes the value still owed on the residence.

The informant for the subject or the couple is asked "This house/housing unit is rented, borrowed, your property or currently paying it off, or other?". If the respondent answers that the residence is borrowed, their property or currently paying it off, or other, they are then asked "Whose name appears on the property title?". If the respondent reported that either their, their spouse's names, or a relative's name (or any combination) is on the title of the residence or that there is no title, the respondent is then asked "This house is completely paid off, being paid to the bank, being paid to relatives or friends, being paid to the bank and to relatives and friends, "irregular", or being regularized". If the respondent gives any response other than "this house is completely paid off", they are then asked "Including all the mortgages and loans from the bank and/or family and friends, about how much do you pay for your house per month?" If the respondent answers any non-zero value, they are then asked "About how much money do you still owe on your house?". HwAMORT captures this reported value of how much money is still owed on the primary residence.

For the question eliciting a value used in HwAMORT, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported that the residence was rented, that the name on the property title was only the name of a non-relative, that the house was completely paid off, or that the respondent does not make any monthly payments on the residence, HwAMORT has a value of 0.



HwAMORT is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwAMORT was not imputed because the respondent did not complete the section. HwAMORT is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFMORT is a flag variable indicating whether or not any component of HwAMORT was imputed. A code of 0 indicates that no component of HwAMORT was imputed. A code of 1 indicates that at least one component of HwAMORT was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are not asked about the names on the property title of the residence and every respondent who reported owning all or part of their residence are asked the value of the residence. In the MHAS, respondents who report that the name on the property title was only the name of a non-relative are not asked the value of the residence.

Also different, the HRS does not ask respondents whether their residence is completely paid off as does MHAS, instead the HRS asks whether they have a mortgage, land contract, second mortgage, or any other type of loan that uses the property as collateral.

Similarly different from MHAS, if the respondent in the HRS reports having a mortgage but not making any monthly payments, they are still asked the amount of the mortgage.

One more important difference between the MHAS and HRS is that the HRS asks separately about the 1st mortgage, 2nd mortgage and other loans. In MHAS there is one question eliciting the value of everything still owed on the residence.

Value of outstanding primary housing debt in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

Wave 1:

IMAMJ18	total debt mortgages/loans (imputed)
J18IMP	if imputed value

Wave 2:

IMAMJ28	total debt houses/apartments (imputed)
J28IMP	if imputed value

Wave 3:

IMAMJ28_12	
J28_IMP_12	

Wave 4:

IMAMJ28_15	Total debt houses/apartments (imputed)
J28_IMP_15	Total debt houses/apartments (Flag if imputed value)

<b>Net Value of Primary Residence</b>
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Wave	Variable	Label	Type
1	H1ATOTH	h1atoth:w1 net value of house/prim res	Cont
2	H2ATOTH	h2atoth:w2 net value of house/prim res	Cont
3	H3ATOTH	h3atoth:w3 net value of house/prim res	Cont
4	H4ATOTH	h4atoth:w4 net value of house/prim res	Cont
1	H1AFTOTH	h1aftoth:w1 flag: net value of house/prim res	Categ
2	H2AFTOTH	h2aftoth:w2 flag: net value of house/prim res	Categ
3	H3AFTOTH	h3aftoth:w3 flag: net value of house/prim res	Categ
4	H4AFTOTH	h4aftoth:w4 flag: net value of house/prim res	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATOTH	15619	204813.39	328205.63	-11009.03	7777776.00
H2ATOTH	14035	251763.18	376271.31	-709489.19	7777776.00
H3ATOTH	15723	536875.90	757008.92	-4100000.00	9000000.00
H4ATOTH	14899	913989.73	1869751.65	-313673.56	40000000.00
H1AFTOTH	15672	0.29	0.46	-1.00	1.00
H2AFTOTH	14064	0.32	0.47	-1.00	1.00
H3AFTOTH	15723	0.42	0.49	0.00	1.00
H4AFTOTH	14933	0.30	0.46	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFTOTH	H2AFTOTH	H3AFTOTH	H4AFTOTH
-1.No Imput:section not complete	53	29		34
0.Not imputed	11034	9523	9123	10335
1.Imputed	4585	4512	6600	4564

### How Constructed

HwATOTH captures the household's net value of the primary residence and is based on information from:

Value of the primary residence, as previously described

Value of mortgages on the primary residence, as previously described

HwATOTH is constructed as the sum of the value of the primary residence minus the value of the mortgage on the primary residence: (Value of the primary residence - Value of mortgages on the primary residence). Both components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwATOTH was not imputed because the respondent did not complete the section. HwATOTH is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTOTH is a flag variable based on the original flag variables (previously defined as HwAFHOUS and HwAFMORT), indicating whether or not any component of HwATOTH was imputed. A code of 0 indicates that no component of HwATOTH was imputed. A code of 1 indicates that at least one component of HwATOTH was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Net value of primary residence in MHAS is measured in nominal pesos, whereas the equivalent measure

in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMJ14	gross value houses/apartments (imputed)
IMAMJ18	total debt mortgages/loans (imputed)
J14IMP	if imputed value
J18IMP	if imputed value

### Wave 2:

IMAMJ28	total debt houses/apartments (imputed)
IMAMJ31	gross value houses/apartments (imputed)
J28IMP	if imputed value
J31IMP	if imputed value

### Wave 3:

IMAMJ28_12
IMAMJ31_12
J28_IMP_12
J31_IMP_12

### Wave 4:

IMAMJ28_15	Total debt houses/apartments (imputed)
IMAMJ31_15	Gross value houses/apartments (imputed)
J28_IMP_15	Total debt houses/apartments (Flag if imputed value)
J31_IMP_15	Gross value houses/apartments (Flag if imputed value)

<b>Value of Other Debt</b>
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Wave	Variable	Label	Type
1	H1ADEBT	h1adebt:w1 assets: debts	Cont
2	H2ADEBT	h2adebt:w2 assets: debts	Cont
3	H3ADEBT	h3adebt:w3 assets: debts	Cont
4	H4ADEBT	h4adebt:w4 assets: debts	Cont
1	H1AFDEBT	h1afdebt:w1 asst flag: debts	Categ
2	H2AFDEBT	h2afdebt:w2 asst flag: debts	Categ
3	H3AFDEBT	h3afdebt:w3 asst flag: debts	Categ
4	H4AFDEBT	h4afdebt:w4 asst flag: debts	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ADEBT	15611	1615.35	13084.10	0.00	500000.00
H2ADEBT	14032	2147.39	22600.44	0.00	1600000.00
H3ADEBT	15723	4547.94	39211.32	0.00	2000000.00
H4ADEBT	14899	6069.37	50855.15	0.00	3500000.00
H1AFDEBT	15670	0.00	0.11	-1.00	1.00
H2AFDEBT	14063	0.01	0.10	-1.00	1.00
H3AFDEBT	15723	0.01	0.11	0.00	1.00
H4AFDEBT	14933	0.01	0.12	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFDEBT	H2AFDEBT	H3AFDEBT	H4AFDEBT
-1.No Imput:section not complete	59	31		34
0.Not imputed	15478	13915	15535	14722
1.Imputed	133	117	188	177

### How Constructed

HwADEBT captures the value of other debt at the household level. HwADEBT includes the value of any others debts, such as credit cards, medical debts, loans on life insurance, family loans or others.

The informant for the subject or the couple is asked "Do you (or your spouse) have any debts which we have not asked about, such as credit cards, medical debts, loans on life insurance, family loans or others?". If the respondent answers yes, they are then asked if "Taking all these into account, about how much do you owe?". HwADEBT captures this reported value of amount owed.

For the question eliciting a value used in HwADEBT, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any other debt, HwADEBT has a value of 0.

HwADEBT is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwADEBT was not imputed because the respondent did not complete the section. HwADEBT is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFDEBT is a flag variable indicating whether or not any component of HwADEBT was imputed. A code of 0 indicates that no component of HwADEBT was imputed. A code of 1 indicates that at least one component of HwADEBT was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

Value of other debt in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

**MHAS Variables Used**

## Wave 1:

IMAM82	other debts (imputed)
K82IMP	if imputed value

## Wave 2:

IMAMK85	other debts (imputed)
K85IMP	if imputed value

## Wave 3:

IMAMK86_12	Other debts (imputed)
K86_IMP_12	Other debts (Flag if imputed value)

## Wave 4:

IMAMK86_15	Other debts (imputed)
K86_IMP_15	Other debts (Flag if imputed value)

<b>Value of Loans Lent</b>
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Wave	Variable	Label	Type
1	H1ALEND	h1alend:w1 assets: loans lent	Cont
2	H2ALEND	h2alend:w2 assets: loans lent	Cont
3	H3ALEND	h3alend:w3 assets: loans lent	Cont
4	H4ALEND	h4alend:w4 assets: loans lent	Cont
1	H1AFLEND	h1aflend:w1 asst flag: loans lent	Categ
2	H2AFLEND	h2aflend:w2 asst flag: loans lent	Categ
3	H3AFLEND	h3aflend:w3 asst flag: loans lent	Categ
4	H4AFLEND	h4aflend:w4 asst flag: loans lent	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ALEND	15611	161.41	6524.79	0.00	400000.00
H2ALEND	14032	700.11	27656.30	0.00	2000000.00
H3ALEND	15723	558.43	13812.79	0.00	900000.00
H4ALEND	14899	1664.26	116008.41	0.00	10000000.00
H1AFLEND	15670	-0.00	0.06	-1.00	1.00
H2AFLEND	14063	-0.00	0.05	-1.00	1.00
H3AFLEND	15723	0.01	0.08	0.00	1.00
H4AFLEND	14933	0.00	0.09	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFLEND	H2AFLEND	H3AFLEND	H4AFLEND
-1.No Imput:section not complete	59	31		34
0.Not imputed	15606	14026	15619	14824
1.Imputed	5	6	104	75

### How Constructed

HwALEND captures the value of other debt at the household level. HwALEND includes the value of loans made out to others.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have loans made out to others?". If the respondent answers yes, they are then asked if "Adding up all these accounts, what is the approximate total value?". HwALEND captures this reported value of loans made out to others.

For the question eliciting a value used in HwALEND, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.mhasweb.org](http://www.mhasweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any loans made out to others, HwALEND has a value of 0.

HwALEND is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwALEND was not imputed because the respondent did not complete the section. HwALEND is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFLEND is a flag variable indicating whether or not any component of HwALEND was imputed. A code of 0 indicates that no component of HwALEND was imputed. A code of 1 indicates that at least one component of HwALEND was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

**Cross Wave Differences in MHAS**

No differences known.

**Differences with the RAND HRS/Harmonized HRS**

This variable is not included in RAND HRS.

**MHAS Variables Used**

## Wave 1:

IMAMK29B	net capital assets_2 (imputed)
K29BIMP	if imputed value

## Wave 2:

IMAMK31_2	net capital assets_2 (imputed)
K31_2IMP	if imputed value

## Wave 3:

IMAMK33_2_12	Net value capital assets_2 (imputed)
K33_2_IMP_12	Net value capital assets_2 (Flag if imputed value)

## Wave 4:

IMAMK33_2_15	Net value capital assets_2 (imputed)
K33_2_IMP_15	Net value capital assets_2 (Flag if imputed value)

<b>Net Value of Non-Housing Financial Wealth (Excluding IRAs)</b>
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Wave	Variable	Label	Type
1	H1ATOTF	h1atotf:w1 non-housing financial wealth	Cont
2	H2ATOTF	h2atotf:w2 non-housing financial wealth	Cont
3	H3ATOTF	h3atotf:w3 non-housing financial wealth	Cont
4	H4ATOTF	h4atotf:w4 non-housing financial wealth	Cont
1	H1AFTOTF	h1aftotf:w1 flag: non-housing financial wealth	Categ
2	H2AFTOTF	h2aftotf:w2 flag: non-housing financial wealth	Categ
3	H3AFTOTF	h3aftotf:w3 flag: non-housing financial wealth	Categ
4	H4AFTOTF	h4aftotf:w4 flag: non-housing financial wealth	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATOTF	15611	54154.06	166465.54	-312375.28	7000000.00
H2ATOTF	14032	67343.94	282598.13	-1560000.00	9777776.00
H3ATOTF	15723	123767.21	410467.39	-1734339.25	9000000.00
H4ATOTF	14899	121236.66	618462.87	-2921027.50	37117728.00
H1AFTOTF	15670	0.27	0.45	-1.00	1.00
H2AFTOTF	14063	0.25	0.44	-1.00	1.00
H3AFTOTF	15723	0.32	0.47	0.00	1.00
H4AFTOTF	14933	0.25	0.44	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFTOTF	H2AFTOTF	H3AFTOTF	H4AFTOTF
-1.No Imput:section not complete	59	31		34
0.Not imputed	11344	10468	10711	11187
1.Imputed	4267	3564	5012	3712

### How Constructed

HwATOTF captures the household's net value of non-housing financial wealth and is based on information from:

Value of bonds, shares, and stocks, as previously described

Value of checking, savings accounts, as previously described

Value of other assets, as previously described

Value of loans lent, as previously described

Value of other debts, as previously described

HwATOTF is constructed as the sum of the different wealth components minus the debt component: (Value of bonds, shares, and stocks + Value of checking, savings accounts + Value of other assets + Value of loans lent - Value of other debts). All the components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwATOTF was not imputed because the respondent did not complete the section. HwATOTF is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTOTF is a flag variable based on the original flag variables (previously defined as HwABFDSTK, HwAFCHCK, HwAFOTHR, HwAFLEND, HwAFDEBT), indicating whether or not any component of HwATOTF was imputed. A code of 0 indicates that no component of HwATOTF was imputed. A code of 1 indicates that at least one component of HwATOTF was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Note: This total does NOT include the value of any real estate, vehicles, or businesses.



## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

See individual components.

Net value of non-housing financial wealth in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM82	other debts (imputed)
IMAMK29A	net capital assets_1 (imputed)
IMAMK29B	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK42	net value other assets (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K29AIMP	if imputed value
K29BIMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K42IMP	if imputed value
K82IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 2:

IMAMK31_1	net capital assets_1 (imputed)
IMAMK31_2	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK44	net value other assets (imputed)
IMAMK85	other debts (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K31_1IMP	if imputed value
K31_2IMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K44IMP	if imputed value
K85IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 3:

IMAMK33_1_12	Net value capital assets_1 (imputed)
IMAMK33_2_12	Net value capital assets_2 (imputed)
IMAMK44_12	Net value other assets (imputed)
IMAMK4_1_12	Total debt business_1 (imputed)
IMAMK4_2_12	Total debt business_2 (imputed)
IMAMK86_12	Other debts (imputed)
IMAMK8_1_12	Gross value business_1 (imputed)
IMAMK8_2_12	Gross value business_2 (imputed)
K33_1_IMP_12	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_12	Net value capital assets_2 (Flag if imputed value)
K44_IMP_12	Net value other assets (Flag if imputed value)
K4_1_IMP_12	Total debt business_1 (Flag if imputed value)
K4_2_IMP_12	Total debt business_2 (Flag if imputed value)
K86_IMP_12	Other debts (Flag if imputed value)
K8_1_IMP_12	Gross value business_1 (Flag if imputed value)
K8_2_IMP_12	Gross value business_2 (Flag if imputed value)

### Wave 4:

IMAMK33_1_15	Net value capital assets_1 (imputed)
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IMAMK33_2_15	Net value capital assets_2 (imputed)
IMAMK44_15	Net value other assets (imputed)
IMAMK4_1_15	Total debt business_1 (imputed)
IMAMK4_2_15	Total debt business_2 (imputed)
IMAMK86_15	Other debts (imputed)
IMAMK8_1_15	Gross value business_1 (imputed)
IMAMK8_2_15	Gross value business_2 (imputed)
K33_1_IMP_15	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_15	Net value capital assets_2 (Flag if imputed value)
K44_IMP_15	Net value other assets (Flag if imputed value)
K4_1_IMP_15	Total debt business_1 (Flag if imputed value)
K4_2_IMP_15	Total debt business_2 (Flag if imputed value)
K86_IMP_15	Other debts (Flag if imputed value)
K8_1_IMP_15	Gross value business_1 (Flag if imputed value)
K8_2_IMP_15	Gross value business_2 (Flag if imputed value)

**Total Wealth**

Wave	Variable	Label	Type
1	H1ATOTB	h1atotb:w1 total all assets inc. 2nd hm	Cont
2	H2ATOTB	h2atotb:w2 total all assets inc. 2nd hm	Cont
3	H3ATOTB	h3atotb:w3 total all assets inc. 2nd hm	Cont
4	H4ATOTB	h4atotb:w4 total all assets inc. 2nd hm	Cont
1	H1AFTOTB	h1aftotb:w1 flag total all assets inc. 2nd hm	Categ
2	H2AFTOTB	h2aftotb:w2 flag total all assets inc. 2nd hm	Categ
3	H3AFTOTB	h3aftotb:w3 flag total all assets inc. 2nd hm	Categ
4	H4AFTOTB	h4aftotb:w4 flag total all assets inc. 2nd hm	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATOTB	15611	399648.40	814013.28	-277776.00	26127040.00
H2ATOTB	14030	473643.74	898728.63	-1655000.00	20978304.00
H3ATOTB	15723	875535.32	1329793.72	-3995500.00	24049140.00
H4ATOTB	14899	1534912.68	3687120.06	-499247.13	110255000.00
H1AFTOTB	15672	0.50	0.51	-1.00	1.00
H2AFTOTB	14064	0.50	0.50	-1.00	1.00
H3AFTOTB	15723	0.57	0.49	0.00	1.00
H4AFTOTB	14933	0.45	0.50	-1.00	1.00

**Categorical Variable Codes**

Value-----	H1AFTOTB	H2AFTOTB	H3AFTOTB	H4AFTOTB
-1.No Imput:section not complete	59	33		34
0.Not imputed	7745	6930	6708	8114
1.Imputed	7868	7101	9015	6785

**How Constructed**

HwATOTB captures the household's total wealth and is based on information from:

Net value of primary residence, as described previously.

Net value of other real estate, as described previously.

Net value of transportation, as described previously.

Net value of business, as described previously.

Net value of non-housing financial wealth, as described previously.

HwATOTB is constructed as the sum of the different wealth components: (Net value of primary residence + Net value of other real estate + Net value of transportation + Net value of business + Net value of non-housing financial wealth). All the components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwATOTB was not imputed because the respondent did not complete the section. HwATOTB is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTOTB is a flag variable based on the original flag variables (previously defined as HwAFTOTF, HwAFRLES, HwAFTRAN, HwAFBSNS, HwAFTOTF), indicating whether or not any component of HwATOTB was imputed. A code of 0 indicates that no component of HwATOTB was imputed. A code of 1 indicates that at least one component of HwATOTB was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

**Cross Wave Differences in MHAS**

No differences known.

## Differences with the RAND HRS/Harmonized HRS

See individual components.

HwATOTB in the Harmonized MHAS does not include the value of individual retirement accounts, whereas HwATOTB in the RAND HRS does include the net value of individual retirement accounts. Whether the respondent is paying into an individual retirement account as part of their current job is asked in MHAS but the current amount of the account is not elicited.

Total family wealth in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM82	other debts (imputed)
IMAMK29A	net capital assets_1 (imputed)
IMAMK29B	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK42	net value other assets (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K29AIMP	if imputed value
K29BIMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K42IMP	if imputed value
K82IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 2:

IMAMK31_1	net capital assets_1 (imputed)
IMAMK31_2	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK44	net value other assets (imputed)
IMAMK85	other debts (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K31_1IMP	if imputed value
K31_2IMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K44IMP	if imputed value
K85IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 3:

IMAMK33_1_12	Net value capital assets_1 (imputed)
IMAMK33_2_12	Net value capital assets_2 (imputed)
IMAMK44_12	Net value other assets (imputed)
IMAMK4_1_12	Total debt business_1 (imputed)
IMAMK4_2_12	Total debt business_2 (imputed)
IMAMK86_12	Other debts (imputed)
IMAMK8_1_12	Gross value business_1 (imputed)
IMAMK8_2_12	Gross value business_2 (imputed)
K33_1_IMP_12	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_12	Net value capital assets_2 (Flag if imputed value)
K44_IMP_12	Net value other assets (Flag if imputed value)
K4_1_IMP_12	Total debt business_1 (Flag if imputed value)
K4_2_IMP_12	Total debt business_2 (Flag if imputed value)
K86_IMP_12	Other debts (Flag if imputed value)
K8_1_IMP_12	Gross value business_1 (Flag if imputed value)
K8_2_IMP_12	Gross value business_2 (Flag if imputed value)

## Wave 4:

IMAMK33_1_15	Net value capital assets_1 (imputed)
IMAMK33_2_15	Net value capital assets_2 (imputed)
IMAMK44_15	Net value other assets (imputed)
IMAMK4_1_15	Total debt business_1 (imputed)
IMAMK4_2_15	Total debt business_2 (imputed)
IMAMK86_15	Other debts (imputed)
IMAMK8_1_15	Gross value business_1 (imputed)
IMAMK8_2_15	Gross value business_2 (imputed)
K33_1_IMP_15	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_15	Net value capital assets_2 (Flag if imputed value)
K44_IMP_15	Net value other assets (Flag if imputed value)
K4_1_IMP_15	Total debt business_1 (Flag if imputed value)
K4_2_IMP_15	Total debt business_2 (Flag if imputed value)
K86_IMP_15	Other debts (Flag if imputed value)
K8_1_IMP_15	Gross value business_1 (Flag if imputed value)
K8_2_IMP_15	Gross value business_2 (Flag if imputed value)

## **Section F: Income**

<b>Individual Earnings</b>
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Wave	Variable	Label	Type
1	R1IEARN	r1iearn:w1 Income:R Earnings from employment	Cont
2	R2IEARN	r2iearn:w2 Income:R Earnings from employment	Cont
3	R3IEARN	r3iearn:w3 Income:R Earnings from employment	Cont
4	R4IEARN	r4iearn:w4 Income:R Earnings from employment	Cont
1	S1IEARN	s1iearn:w1 Income:S Earnings from employment	Cont
2	S2IEARN	s2iearn:w2 Income:S Earnings from employment	Cont
3	S3IEARN	s3iearn:w3 Income:S Earnings from employment	Cont
4	S4IEARN	s4iearn:w4 Income:S Earnings from employment	Cont
1	R1IFEARN	r1ifearn:w1 IncFlag:R Earnings from employment	Categ
2	R2IFEARN	r2ifearn:w2 IncFlag:R Earnings from employment	Categ
3	R3IFEARN	r3ifearn:w3 IncFlag:R Earnings from employment	Categ
4	R4IFEARN	r4ifearn:w4 IncFlag:R Earnings from employment	Categ
1	S1IFEARN	s1ifearn:w1 IncFlag:S Earnings from employment	Categ
2	S2IFEARN	s2ifearn:w2 IncFlag:S Earnings from employment	Categ
3	S3IFEARN	s3ifearn:w3 IncFlag:S Earnings from employment	Categ
4	S4IFEARN	s4ifearn:w4 IncFlag:S Earnings from employment	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IEARN	15126	17183.59	73539.49	0.00	4723420.00
R2IEARN	13667	12427.51	46352.37	0.00	2118000.00
R3IEARN	15721	13252.24	102191.16	0.00	6041666.50
R4IEARN	14745	14615.26	83056.72	0.00	6008617.00
S1IEARN	10632	20164.56	84570.50	0.00	4723420.00
S2IEARN	9552	14406.84	51575.03	0.00	2118000.00
S3IEARN	10590	15245.83	100475.70	0.00	6041666.50
S4IEARN	9648	17324.24	95774.47	0.00	6008617.00
R1IFEARN	15186	0.03	0.19	-1.00	1.00
R2IFEARN	13704	0.02	0.15	-1.00	1.00
R3IFEARN	15723	0.03	0.16	-1.00	1.00
R4IFEARN	14779	0.02	0.15	-1.00	1.00
S1IFEARN	10648	0.04	0.19	-1.00	1.00
S2IFEARN	9564	0.03	0.17	-1.00	1.00
S3IFEARN	10592	0.03	0.18	-1.00	1.00
S4IFEARN	9652	0.03	0.16	-1.00	1.00

### Categorical Variable Codes

Value	R1IFEARN	R2IFEARN	R3IFEARN	R4IFEARN
-1.No Imput:section not complete	60	37	2	34
0.Not imputed	14623	13381	15286	14443
1.Imputed	503	286	435	302
Value	S1IFEARN	S2IFEARN	S3IFEARN	S4IFEARN
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
-1.No Imput:section not complete	16	12	2	4
0.Not imputed	10231	9297	10226	9387
1.Imputed	401	255	364	261

### How Constructed

RwIEARN and SwIEARN capture the respondent's and spouse's employment individual earnings at an annual-level, respectively. RwIEARN and SwIEARN include income from salary, commission, overtime,

bonus and profit share for both the primary and secondary job. Employment earnings questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "During last year, did you have a principal job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did you receive income from salary, commission, and overtime from your principal job?" If they answer yes, they are asked how much they earned per month. They are then asked "Excluding income you already mentioned, last year did you receive income from bonus and/or profit share from your principal job?" If they answer yes, they are asked about how much they earned yearly. For all respondents who are reported to have had a principal job during the last year, they are asked "During last year, did you have a secondary job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did you receive income from salary, commission, and overtime from your secondary job?". If they answer yes, they are asked how much they earned per month. They are then asked "Excluding income you already mentioned, last year did you receive income from bonus and/or profit share from your secondary job?". If they answer yes, they are asked about how much they earned yearly. Rwiearn is derived as yearly income from employment earnings by multiplying the reported monthly amounts of salary, commission, and overtime by 12 and by adding the reported yearly amounts of bonus and profit share from both the primary and secondary job. In the case that the respondent did not have a primary job or that they did not receive any salary, commission, overtime, bonus and profit share for the primary or secondary job, Rwiearn has a value of 0. Special missing .m is used if at least one component of Rwiearn was not imputed because the section was not completed. Rwiearn is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "During last year, did your spouse have a principal job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did your spouse receive income from salary, commission, and overtime from his/her principal job?" If they answer yes, they are asked how much he/she earned per month. They are then asked "Excluding income you already mentioned, last year did your spouse receive income from bonus and/or profit share from his/her principal job?" If they answer yes, they are asked about how much he/she earned yearly. For all spouses who are reported to have had a principal job during the last year, the informant is asked "During last year, did your spouse have a secondary job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did your spouse receive income from salary, commission, and overtime from his/her secondary job?". If they answer yes, they are asked how much he/she earned per month. They are then asked "Excluding income you already mentioned, last year did your spouse receive income from bonus and/or profit share from his/her secondary job?". If they answer yes, they are asked about how much he/she earned yearly. Swiearn is derived as yearly income from employment earnings by multiplying the reported monthly amounts of salary, commission, and overtime by 12 and by adding the reported yearly amounts of bonus and profit share from both the primary and secondary job. In the case that the spouse did not have a primary job or that they did not receive any salary, commission, overtime, bonus and profit share for the primary or secondary job, Swiearn has a value of 0. Special missing .m is used if at least one component of Swiearn was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. Swiearn is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in Rwiearn and Swiearn, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

Rwiefearn and Swiefearn are flag variables indicating whether or not any component of Rwiearn or Swiearn was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.



## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS respondents are asked to report employment earnings aside from self-employment income. The HRS then later specifically asks respondents about self-employment income. In the MHAS respondents are asked about all earnings from the principal and secondary job (regardless of whether the earnings are from self-employment). Therefore earnings from self-employment are captured in RwieARN in the Harmonized MHAS while these earnings would not be captured in RwieARN in the RAND HRS but instead are included as part of HwicAP in the RAND HRS.

In the HRS, respondents are instructed to report employment earnings before taxes and deductions. In the MHAS, employment earnings questions are asked without instruction as to whether these amounts should be reported before or after tax.

The individual earnings variable in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM44	own earned income-1 (imputed)
IMAM45	own earned income-2 (imputed)
IMAM47	own earned income-3 (imputed)
IMAM48	own earned income-4 (imputed)
IMAM50	spouse's earned income-1 (imputed)
IMAM51	spouse's earned income-2 (imputed)
IMAM53	spouse's earned income-3 (imputed)
IMAM54	spouse's earned income-4 (imputed)
K44IMP	if imputed value
K45IMP	if imputed value
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value

### Wave 2:

IMAM47	own earned income-1 (imputed)
IMAM48	own earned income-2 (imputed)
IMAM50	own earned income-3 (imputed)
IMAM51	own earned income-4 (imputed)
IMAM53	spouse's earned income-1 (imputed)
IMAM54	spouse's earned income-2 (imputed)
IMAM56	spouse's earned income-3 (imputed)
IMAM57	spouse's earned income-4 (imputed)
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value
K56IMP	if imputed value
K57IMP	if imputed value

### Wave 3:

IMAMK47A_12	Own earned income-1 (imputed)
IMAMK48A_12	Own earned income-2 (imputed)
IMAMK50A_12	Own earned income-3 (imputed)
IMAMK51A_12	Own earned income-4 (imputed)
IMAMK53A_12	Spouse's earned income-1 (imputed)
IMAMK54A_12	Spouse's earned income-2 (imputed)
IMAMK56A_12	Spouse's earned income-3 (imputed)
IMAMK57A_12	Spouse's earned income-4 (imputed)
K47A_IMP_12	Own earned income-1 (Flag if imputed value)

K48A_IMP_12	Own earned income-2 (Flag if imputed value)
K50A_IMP_12	Own earned income-3 (Flag if imputed value)
K51A_IMP_12	Own earned income-4 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)

## Wave 4:

IMAMK47A_15	Own earned income-1 (imputed)
IMAMK48A_15	Own earned income-2 (imputed)
IMAMK50A_15	Own earned income-3 (imputed)
IMAMK51A_15	Own earned income-4 (imputed)
IMAMK53A_15	Spouse's earned income-1 (imputed)
IMAMK54A_15	Spouse's earned income-2 (imputed)
IMAMK56A_15	Spouse's earned income-3 (imputed)
IMAMK57A_15	Spouse's earned income-4 (imputed)
K47A_IMP_15	Own earned income-1 (Flag if imputed value)
K48A_IMP_15	Own earned income-2 (Flag if imputed value)
K50A_IMP_15	Own earned income-3 (Flag if imputed value)
K51A_IMP_15	Own earned income-4 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)

<b>Household Capital Income</b>
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Wave	Variable	Label	Type
1	H1ISEMP	hlisemp:w1 Income:H Earnings from business	Cont
2	H2ISEMP	h2isemp:w2 Income:H Earnings from business	Cont
3	H3ISEMP	h3isemp:w3 Income:H Earnings from business	Cont
4	H4ISEMP	h4isemp:w4 Income:H Earnings from business	Cont
1	H1IFSEMP	hlifsemp:w1 IncFlag:H Earnings from business	Categ
2	H2IFSEMP	h2ifsemp:w2 IncFlag:H Earnings from business	Categ
3	H3IFSEMP	h3ifsemp:w3 IncFlag:H Earnings from business	Categ
4	H4IFSEMP	h4ifsemp:w4 IncFlag:H Earnings from business	Categ
1	H1IRENT	hlirent:w1 Income:H Rental income	Cont
2	H2IRENT	h2irent:w2 Income:H Rental income	Cont
3	H3IRENT	h3irent:w3 Income:H Rental income	Cont
4	H4IRENT	h4irent:w4 Income:H Rental income	Cont
1	H1IFRENT	hlifsemp:w1 IncFlag:H Rental income	Categ
2	H2IFRENT	h2ifsemp:w2 IncFlag:H Rental income	Categ
3	H3IFRENT	h3ifsemp:w3 IncFlag:H Rental income	Categ
4	H4IFRENT	h4ifsemp:w4 IncFlag:H Rental income	Categ
1	H1ITREST	hlitrest:w1 Income:H Interest income from financial assets	Cont
2	H2ITREST	h2itrest:w2 Income:H Interest income from financial assets	Cont
3	H3ITREST	h3itrest:w3 Income:H Interest income from financial assets	Cont
4	H4ITREST	h4itrest:w4 Income:H Interest income from financial assets	Cont
1	H1IFTREST	hliftrest:w1 Impflag:H Interest income from financial assets	Categ
2	H2IFTREST	h2iftrest:w2 Impflag:H Interest income from financial assets	Categ
3	H3IFTREST	h3iftrest:w3 Impflag:H Interest income from financial assets	Categ
4	H4IFTREST	h4iftrest:w4 Impflag:H Interest income from financial assets	Categ
1	H1ICAP	hlicap:w1 Income:H Capital Income	Cont
2	H2ICAP	h2icap:w2 Income:H Capital Income	Cont
3	H3ICAP	h3icap:w3 Income:H Capital Income	Cont
4	H4ICAP	h4icap:w4 Income:H Capital Income	Cont
1	H1IFCAP	hlifcap:w1 IncFlag:H Capital Inc	Categ
2	H2IFCAP	h2ifcap:w2 IncFlag:H Capital Inc	Categ
3	H3IFCAP	h3ifcap:w3 IncFlag:H Capital Inc	Categ
4	H4IFCAP	h4ifcap:w4 IncFlag:H Capital Inc	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ISEMP	15611	25169.35	469993.03	-6000000.00	27506664.00
H2ISEMP	14032	39387.48	910367.38	-26631360.00	36006000.00
H3ISEMP	15723	-4423.73	867895.98	-48000000.00	43200000.00
H4ISEMP	14745	15653.99	309556.40	-2400000.00	17994000.00
H1IFSEMP	15186	0.06	0.25	-1.00	1.00
H2IFSEMP	13704	0.07	0.26	-1.00	1.00
H3IFSEMP	15723	0.04	0.20	0.00	1.00
H4IFSEMP	14779	0.03	0.19	-1.00	1.00
H1IRENT	15611	21235.23	1099783.61	-6000000.00	90000000.00
H2IRENT	14032	2434.64	29388.49	-300000.00	960000.00
H3IRENT	15723	4906.16	168221.64	-1200000.00	8430600.00
H4IRENT	14745	4404.68	169933.17	-1200000.00	11940000.00
H1IFRENT	15186	0.00	0.11	-1.00	1.00
H2IFRENT	13704	0.01	0.11	-1.00	1.00
H3IFRENT	15723	0.01	0.12	0.00	1.00
H4IFRENT	14779	0.01	0.11	-1.00	1.00

H1ITREST	15611	929.32	6505.80	0.00	165300.00
H2ITREST	14032	460.72	4126.64	0.00	106923.75
H3ITREST	15723	1327.33	30831.86	0.00	2400000.00
H4ITREST	14745	7690.25	559878.52	0.00	48032464.00
H1IFTREST	15186	0.03	0.19	-1.00	1.00
H2IFTREST	13704	0.02	0.17	-1.00	1.00
H3IFTREST	15723	0.02	0.14	0.00	1.00
H4IFTREST	14779	0.01	0.14	-1.00	1.00
H1ICAP	15611	47333.90	1265508.25	-6000000.00	90000000.00
H2ICAP	14032	42282.85	913186.40	-26631360.00	36006000.00
H3ICAP	15723	1809.76	884754.95	-48000000.00	43200000.00
H4ICAP	14745	27748.92	690744.28	-2400000.00	50958275.25
H1IFCAP	15186	0.09	0.30	-1.00	1.00
H2IFCAP	13704	0.10	0.30	-1.00	1.00
H3IFCAP	15723	0.07	0.25	0.00	1.00
H4IFCAP	14779	0.05	0.23	-1.00	1.00

### Categorical Variable Codes

Value-----	H1IFSEMP	H2IFSEMP	H3IFSEMP	H4IFSEMP
-1.No Imput:section not complete	59	31		34
0.Not imputed	14194	12731	15071	14221
1.Imputed	933	942	652	524
Value-----	H1IFRENT	H2IFRENT	H3IFRENT	H4IFRENT
-1.No Imput:section not complete	59	31		34
0.Not imputed	14993	13529	15501	14608
1.Imputed	134	144	222	137
Value-----	H1IFTREST	H2IFTREST	H3IFTREST	H4IFTREST
-1.No Imput:section not complete	59	31		34
0.Not imputed	14598	13314	15391	14504
1.Imputed	529	359	332	241
Value-----	H1IFCAP	H2IFCAP	H3IFCAP	H4IFCAP
-1.No Imput:section not complete	59	31		34
0.Not imputed	13648	12327	14675	13950
1.Imputed	1479	1346	1048	795

### How Constructed

HwISEMP captures the household's business income at an annual-level. HwISEMP includes earnings/profits from a business or farm. Business income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The informant for the subject or the couple is asked "do you (and/or spouse) own a business or farm?". If the respondent answers yes, they are then asked "during the last year, did this business generate income for you (and/or your spouse)?" If the business did generate income they are asked "about how much income did this business generate in a typical month? Consider income before expenses." All respondents who report owning a business/farm are also asked "about how much did you spend on this business in a typical month?". Starting in Wave 2, all respondents who report owning a business/farm are also asked "how much profit does this business give you (and/or your spouse) in a typical month?" HwISEMP is derived as the gross monthly income minus the monthly expenses of the business, multiplied by 12. In the case that neither the respondent nor the spouse owns a business, HwISEMP has a value of 0.

HwIRENT captures the household's rental income at an annual-level. HwIRENT includes gross income minus expenses from real estate property (other than the main and primary house), land, vacant lots, and properties for rent. Rental income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The informant for the subject or the couple is asked "excluding your main house or second residence, do you (or your spouse) own any real estate property, such as land, vacant lots and/or properties for rent?". If the respondent answers yes, they are then asked "during the last year, did this property generate income for you (and/or your spouse)?" If the property did generate income they are asked "about how much income did this property generate in a typical month?"

Consider income before expenses." All respondents who report owning real estate are also asked "about how much did you spend on this property in a typical month?". HwIRENT is derived as the gross monthly income minus the monthly expenses of the property, multiplied by 12. In the case that neither the respondent nor spouse owns real estate, HwIRENT has a value of 0.

HwITREST captures the household's income from financial assets at an annual-level. HwITREST includes income generated from checking, saving accounts, fixed investments, loans made to others, stocks, company shares, and bonds. Questions about income from financial assets are asked without instruction as to whether these amounts should be reported before or after tax.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have checking or saving account, or fixed investment?". If the respondent answers yes, they are then asked "During the previous year, did these [assets] generate income for you (and/or your spouse)?" If the asset did generate income they are asked "about how much per month?" Next the informant for the subject or the couple is asked "Do you (and/or your spouse) have loans made out to others?". If the respondent answers yes, they are then asked "During the previous year, did these [assets] generate income for you (and/or your spouse)?" If the asset did generate income they are asked "about how much per month?" Next the informant for the subject or the couple is asked "Do you (and/or your spouse) have stocks, company shares or bonds?". If the respondent answers yes, they are then asked "During the previous year, did these [assets] generate income for you (and/or your spouse)?" If the asset did generate income they are asked "about how much per month?" HwIRENT is derived as the sum of the monthly income generated from checking or saving account, or fixed investment, loans made out to others, and stocks, company shares, or bonds, multiplied by 12. In the case that neither the respondent nor spouse has checking or saving account, fixed investment, loans made out to others, stocks, company shares, or bonds, or that the respondent or spouse have these assets but they did not generate any income from them in the last year, HwITREST has a value of 0.

For all questions eliciting a value included in HwISEMP, HwIRENT, or HwITREST the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

HwISEMP, HwIRENT, and HwITREST are derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwISEMP, HwIRENT, and HwITREST was not imputed because the respondent did not complete the section. HwISEMP, HwIRENT, and HwITREST are set to blank missing (.) if the respondent did not participate in the current wave.

HwIFSEMP, HwIFRENT, and HwIFTREST are flag variables indicating whether or not any component of HwISEMP, HwIRENT, and HwITREST was imputed, respectively. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

HwICAP captures the household's total capital income at an annual-level and is based on information from:

Income from business earnings, as previously described

Income from rental income, as previously described

Income from financial assets, as previously described

HwICAP is constructed as the sum of the income from business earnings, rental income, and interest income from financial assets. All components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwICAP was not imputed because the respondent did not complete the section. HwICAP is set to blank missing (.) if the respondent did not participate in the current wave.

HwIFCAP is a flag variable based on the original flag variables (previously defined as HwIFSEMP, HwIFRENT, and HwIFTREST), indicating whether or not any component of HwICAP was imputed. A code of 0 indicates that no component of HwICAP was imputed. A code of 1 indicates that at least one component of HwICAP was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

Starting in Wave 2, the MHAS added a question which asked "How much profit does this business give you (and/or your spouse) in a typical month?" HwISEMP is derived for all the waves as the gross monthly income minus the monthly expenses of the business, multiplied by 12, to maintain the comparability of the variable across waves and the business profit value was not used instead.

## Differences with the RAND HRS/Harmonized HRS

In the HRS respondents are asked about income from household business or farm income, self-employment earnings, business income, gross rent, dividend and interest income, trust funds or royalties, and other asset income. In the MHAS, respondents are not specifically asked about self-employment earnings but are asked about all earnings from the principal and secondary job. These values of all earnings are captured in RwieARN. Also different, the MHAS does not ask about income from "other" assets.

In the HRS, respondents are instructed to report capital income before taxes and deductions. In the MHAS, capital income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Capital income in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM24_1	property rent income-1 (imputed)
IMAM24_2	property rent income-2 (imputed)
IMAM27_1	property expenditures-1 (imputed)
IMAM27_2	property expenditures-2 (imputed)
IMAM33_1	capital assets income-1 (imputed)
IMAM33_2	capital assets income-2 (imputed)
IMAM33_3	capital assets income-3 (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K24_1IMP	if imputed value
K24_2IMP	if imputed value
K27_1IMP	if imputed value
K27_2IMP	if imputed value
K33_1IMP	if imputed value
K33_2IMP	if imputed value
K33_3IMP	if imputed value

### Wave 2:

IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM26_1	property rent income-1 (imputed)
IMAM26_2	property rent income-2 (imputed)
IMAM29_1	property expenditures-1 (imputed)
IMAM29_2	property expenditures-2 (imputed)
IMAM35_1	capital assets income-1 (imputed)
IMAM35_2	capital assets income-2 (imputed)
IMAM35_3	capital assets income-3 (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K26_1IMP	if imputed value
K26_2IMP	if imputed value
K29_1IMP	if imputed value

K29_2IMP	if imputed value
K35_1IMP	if imputed value
K35_2IMP	if imputed value
K35_3IMP	if imputed value

## Wave 3:

IMAMK11_1_12	Business income-1 (imputed)
IMAMK11_2_12	Business income-2 (imputed)
IMAMK13_1_12	Business expenditures-1 (imputed)
IMAMK13_2_12	Business expenditures-2 (imputed)
IMAMK27_1_12	Property rent income-1 (imputed)
IMAMK27_2_12	Property rent income-2 (imputed)
IMAMK29_1_12	Property expenditures-1 (imputed)
IMAMK29_2_12	Property expenditures-2 (imputed)
IMAMK36_1_12	Capital assets income-1 (imputed)
IMAMK36_2_12	Capital assets income-2 (imputed)
IMAMK36_3_12	Capital assets income-3 (imputed)
K11_1_IMP_12	Business income-1 (Flag if imputed value)
K11_2_IMP_12	Business income-2 (Flag if imputed value)
K13_1_IMP_12	Business expenditures-1 (Flag if imputed value)
K13_2_IMP_12	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_12	Property rent income-1 (Flag if imputed value)
K27_2_IMP_12	Property rent income-2 (Flag if imputed value)
K29_1_IMP_12	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_12	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_12	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_12	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_12	Capital assets income-3 (Flag if imputed value)

## Wave 4:

IMAMK11_1_15	Business income-1 (imputed)
IMAMK11_2_15	Business income-2 (imputed)
IMAMK13_1_15	Business expenditures-1 (imputed)
IMAMK13_2_15	Business expenditures-2 (imputed)
IMAMK27_1_15	Property rent income-1 (imputed)
IMAMK27_2_15	Property rent income-2 (imputed)
IMAMK29_1_15	Property expenditures-1 (imputed)
IMAMK29_2_15	Property expenditures-2 (imputed)
IMAMK36_1_15	Capital assets income-1 (imputed)
IMAMK36_2_15	Capital assets income-2 (imputed)
IMAMK36_3_15	Capital assets income-3 (imputed)
K11_1_IMP_15	Business income-1 (Flag if imputed value)
K11_2_IMP_15	Business income-2 (Flag if imputed value)
K13_1_IMP_15	Business expenditures-1 (Flag if imputed value)
K13_2_IMP_15	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_15	Property rent income-1 (Flag if imputed value)
K27_2_IMP_15	Property rent income-2 (Flag if imputed value)
K29_1_IMP_15	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_15	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_15	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_15	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_15	Capital assets income-3 (Flag if imputed value)

<b>Individual Income from Private Pension</b>
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Wave	Variable	Label	Type
1	R1IPENA	rlipena:w1 Income:R Pension + Annuity	Cont
2	R2IPENA	r2ipena:w2 Income:R Pension + Annuity	Cont
1	S1IPENA	slipena:w1 Income:S Pension + Annuity	Cont
2	S2IPENA	s2ipena:w2 Income:S Pension + Annuity	Cont
1	R1IFPENA	rlifpena:w1 ImpFlag:R Pension + Annuity	Categ
2	R2IFPENA	r2ifpena:w2 ImpFlag:R Pension + Annuity	Categ
1	S1IFPENA	slifpena:w1 ImpFlag:S Pension + Annuity	Categ
2	S2IFPENA	s2ifpena:w2 ImpFlag:S Pension + Annuity	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IPENA	15126	122.46	3943.66	0.00	360000.00
R2IPENA	13667	112.47	4207.06	0.00	324000.00
S1IPENA	10632	99.71	4003.70	0.00	360000.00
S2IPENA	9552	102.57	3555.79	0.00	216000.00
R1IFPENA	15186	0.00	0.11	-1.00	1.00
R2IFPENA	13704	0.00	0.10	-1.00	1.00
S1IFPENA	10648	0.00	0.09	-1.00	1.00
S2IFPENA	9564	0.00	0.09	-1.00	1.00

### Categorical Variable Codes

Value-----	R1IFPENA	R2IFPENA
-1.No Imput:section not complete	60	37
0.Not imputed	15014	13575
1.Imputed	112	92

Value-----	S1IFPENA	S2IFPENA
.u:Unmar	4205	4009
.v:SP NR	333	131
-1.No Imput:section not complete	16	12
0.Not imputed	10565	9493
1.Imputed	67	59

### How Constructed

RwIPENA and SwIPENA capture the respondent's and spouse's individual income from private pensions at an annual-level, respectively. RwIPENA and SwIPENA include income from all pensions from a private provider, including retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions. Private pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If



they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" RwiPENA is derived as yearly income from private pensions by adding the reported monthly private pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income from a private provider, RwiPENA has a value of 0. Special missing .m is used if at least one component of RwiPENA was not imputed because the section was not completed. RwiPENA is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" SwiPENA is derived as yearly income from private pensions by adding the reported monthly private pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income from a private provider, SwiPENA has a value of 0. Special missing .m is used if at least one component of SwiPENA was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. SwiPENA is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwiPENA and SwiPENA, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), and 2012 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwiFPENA and SwiFPENA are flag variables indicating whether or not any component of RwiPENA or SwiPENA was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

Starting in Wave 3 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, it is not possible to identify pension income after Wave 2 exclusively from private providers and RwiPENA cannot be created. A total measure of pension income is available for all waves in the variable RwiPENT.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Individual income from private pensions in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

### MHAS Variables Used

#### Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse

#### Wave 2:

IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)
IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value
K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse

<b>Individual Public Pension Income</b>
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Wave	Variable	Label	Type
1	R1ISRET	r1isret:w1 Income:R Public Old Age + Survivor Pensions	Cont
2	R2ISRET	r2isret:w2 Income:R Public Old Age + Survivor Pensions	Cont
1	S1ISRET	slisret:w1 Income:S Public Old Age + Survivor Pensions	Cont
2	S2ISRET	s2isret:w2 Income:S Public Old Age + Survivor Pensions	Cont
1	R1IFSRET	rlifsret:w1 IncFlag:R Public Old Age + Survivor Pensions	Categ
2	R2IFSRET	r2ifsret:w2 IncFlag:R Public Old Age + Survivor Pensions	Categ
1	S1IFSRET	slifsret:w1 IncFlag:S Public Old Age + Survivor Pensions	Categ
2	S2IFSRET	s2ifsret:w2 IncFlag:S Public Old Age + Survivor Pensions	Categ
1	R1ISSDI	rlissdi:w1 Income:R Public Disability Pensions	Cont
2	R2ISSDI	r2issdi:w2 Income:R Public Disability Pensions	Cont
1	S1ISSDI	slissdi:w1 Income:S Public Disability Pensions	Cont
2	S2ISSDI	s2issdi:w2 Income:S Public Disability Pensions	Cont
1	R1IFSSDI	rlifssdi:w1 IncFlag:R Public Disability Pensions	Categ
2	R2IFSSDI	r2ifssdi:w2 IncFlag:R Public Disability Pensions	Categ
1	S1IFSSDI	slifssdi:w1 IncFlag:S Public Disability Pensions	Categ
2	S2IFSSDI	s2ifssdi:w2 IncFlag:S Public Disability Pensions	Categ
1	R1IPUBO	rlipubo:w1 Income:R Other Public Pensions	Cont
2	R2IPUBO	r2ipubo:w2 Income:R Other Public Pensions	Cont
1	S1IPUBO	slipubo:w1 Income:S Other Public Pensions	Cont
2	S2IPUBO	s2ipubo:w2 Income:S Other Public Pensions	Cont
1	R1IFPUBO	rlifpubo:w1 IncFlag:R Other Public Pensions	Categ
2	R2IFPUBO	r2ifpubo:w2 IncFlag:R Other Public Pensions	Categ
1	S1IFPUBO	slifpubo:w1 IncFlag:S Other Public Pensions	Categ
2	S2IFPUBO	s2ifpubo:w2 IncFlag:S Other Public Pensions	Categ
1	R1IPUBPEN	rlipubpen:w1 Income:R Public Pensions	Cont
2	R2IPUBPEN	r2ipubpen:w2 Income:R Public Pensions	Cont
1	S1IPUBPEN	slipubpen:w1 Income:S Public Pensions	Cont
2	S2IPUBPEN	s2ipubpen:w2 Income:S Public Pensions	Cont
1	R1IFPUBPEN	rlifpubpen:w1 Impflag:R Public Pensions	Categ
2	R2IFPUBPEN	r2ifpubpen:w2 Impflag:R Public Pensions	Categ
1	S1IFPUBPEN	slifpubpen:w1 IncFlag:S Public Pensions	Categ
2	S2IFPUBPEN	s2ifpubpen:w2 IncFlag:S Public Pensions	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1ISRET	15126	3852.59	21726.50	0.00	1896648.00
R2ISRET	13667	5216.57	20225.50	0.00	672000.00
S1ISRET	10632	3305.34	15255.23	0.00	480000.00
S2ISRET	9552	4835.15	20970.32	0.00	672000.00
R1IFSRET	15186	0.00	0.10	-1.00	1.00
R2IFSRET	13704	0.00	0.10	-1.00	1.00
S1IFSRET	10648	0.00	0.09	-1.00	1.00
S2IFSRET	9564	0.00	0.09	-1.00	1.00

R1ISSDI	15126	195.20	2837.74	0.00	144000.00
R2ISSDI	13667	165.97	2977.33	0.00	192000.00
S1ISSDI	10632	195.11	2446.50	0.00	108000.00
S2ISSDI	9552	197.94	3391.93	0.00	192000.00
R1IFSSDI	15186	-0.00	0.07	-1.00	1.00
R2IFSSDI	13704	-0.00	0.05	-1.00	0.00
S1IFSSDI	10648	-0.00	0.04	-1.00	1.00
S2IFSSDI	9564	-0.00	0.03	-1.00	0.00
R1IPUBO	15126	76.39	2437.60	0.00	240000.00
R2IPUBO	13667	84.98	2852.02	0.00	240000.00
S1IPUBO	10632	41.61	1207.41	0.00	72000.00
S2IPUBO	9552	103.30	3362.69	0.00	240000.00
R1IFPUBO	15186	-0.00	0.06	-1.00	1.00
R2IFPUBO	13704	-0.00	0.05	-1.00	0.00
S1IFPUBO	10648	-0.00	0.04	-1.00	1.00
S2IFPUBO	9564	-0.00	0.04	-1.00	0.00
R1IPUBPEN	15126	4124.19	22082.77	0.00	1896648.00
R2IPUBPEN	13667	5467.52	20947.32	0.00	672000.00
S1IPUBPEN	10632	3542.06	15493.06	0.00	480000.00
S2IPUBPEN	9552	5136.39	21913.44	0.00	672000.00
R1IFPUBPEN	15186	0.00	0.11	-1.00	1.00
R2IFPUBPEN	13704	0.00	0.10	-1.00	1.00
S1IFPUBPEN	10648	0.00	0.09	-1.00	1.00
S2IFPUBPEN	9564	0.00	0.09	-1.00	1.00

**Categorical Variable Codes**

Value-----	R1IFSRET	R2IFSRET
-1.No Imput:section not complete	60	37
0.Not imputed	15021	13575
1.Imputed	105	92
Value-----	S1IFSRET	S2IFSRET
.u:Unmar	4205	4009
.v:SP NR	333	131
-1.No Imput:section not complete	16	12
0.Not imputed	10570	9493
1.Imputed	62	59
Value-----	R1IFSSDI	R2IFSSDI
-1.No Imput:section not complete	60	33
0.Not imputed	15120	13671
1.Imputed	6	
Value-----	S1IFSSDI	S2IFSSDI
.u:Unmar	4205	4009
.v:SP NR	333	131
-1.No Imput:section not complete	16	10
0.Not imputed	10628	9554
1.Imputed	4	
Value-----	R1IFPUBO	R2IFPUBO
-1.No Imput:section not complete	60	37
0.Not imputed	15123	13667
1.Imputed	3	
Value-----	S1IFPUBO	S2IFPUBO
.u:Unmar	4205	4009
.v:SP NR	333	131
-1.No Imput:section not complete	16	12

0.Not imputed	10631	9552
1.Imputed	1	
Value-----	R1IFPUBPEN	R2IFPUBPEN
-1.No Imput:section not complete	60	37
0.Not imputed	15014	13575
1.Imputed	112	92
Value-----	S1IFPUBPEN	S2IFPUBPEN
.u:Unmar	4205	4009
.v:SP NR	333	131
-1.No Imput:section not complete	16	12
0.Not imputed	10565	9493
1.Imputed	67	59

## How Constructed

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

RwISRET and SwISRET capture the respondent's and spouse's individual income from public retirement and widowhood pensions at an annual-level, respectively. RwISRET and SwISRET include income from retirement pensions and widowhood pensions from public providers. Public retirement and widowhood pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" RwISRET is derived as yearly income from public retirement and widowhood pensions by adding the reported monthly public pension income from retirement pensions and widowhood pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income from a public retirement or widowhood pension, RwISRET has a value of 0. Special missing .m is used if at least one component of RwISRET was not imputed because the section was not completed. RwISRET is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" SwISRET is derived as yearly income from public retirement and widowhood pensions by adding the reported monthly public pension income from retirement pensions and widowhood pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income from a public retirement or widowhood pension, SwISRET has a value of 0. Special missing .m is used if at least one component of SwISRET was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. SwISRET is set to blank missing (.) if the respondent did not participate in the current wave.

RwIFSRET and SwIFSRET are flag variables indicating whether or not any component of RwisRET or SwISRET was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

RwISSDI and SwISSDI capture the respondent's and spouse's income from public disability pensions at an annual-level, respectively. RwISSDI and SwISSDI capture income from disability or work accident pensions from public providers. Public disability pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" RwISSDI is derived as yearly income from public disability pensions by multiplying the reported monthly public pension income from disability and work accident pensions by 12. In the case that the respondent does not receive any pension income from a public disability or work accident pension, RwISSDI has a value of 0. Special missing .m is used if at least one component of RwISSDI was not imputed because the section was not completed. RwISSDI is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" SwISSDI is derived as yearly income from public disability pensions by multiplying the reported monthly public pension income from disability and work accident pensions by 12. In the case that the spouse does not receive any pension income from a public disability or work accident pension, SwISSDI has a value of 0. Special missing .m is used if at least one component of SwISSDI was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. SwISSDI is set to blank missing (.) if the respondent did not participate in the current wave.

RwIFSSDI and SwIFSSDI are flag variables indicating whether or not any component of RwISSDI or SwISSDI was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

RwIPUBO and SwIPUBO capture the respondent's and spouse's income from other public pensions at an annual-level, respectively. RwIPUBO and SwIPUBO capture income from other pensions from public providers. Other public pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The financial respondent is asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" RwIPUBO is derived as yearly income from other public pensions by multiplying the reported monthly public pension income from other pensions by 12. In the case that the respondent does not receive any pension income from other public pensions, RwIPUBO has a value of 0. Special missing .m is used if at least one component of RwIPUBO was not imputed because the section was not completed. RwIPUBO is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" SwIPUBO is derived as yearly income from other public pensions by multiplying the reported monthly public pension income from other pensions by 12. In the case that the spouse does not receive any pension income from other public pensions, SwIPUBO has a value of 0. Special missing .m is used if at least one component of SwIPUBO was not imputed because the section was not completed. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown.

Special missing value .u is used when the respondent does not have a spouse at this wave. SwIPUBO is set to blank missing (.) if the respondent did not participate in the current wave.

RwIFPUBO and SwIFPUBO are flag variables indicating whether or not any component of RwIPUBO or SwIPUBO was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

RwIPUBPEN and SwIPUBPEN capture the respondent's and spouse's total income from public pensions at an annual-level, respectively. RwIPUBPEN and SwIPUBPEN are based on information from:

Income from public retirement and widowhood pensions, as previously described

Income from public disability pensions, as previously described

Income from other public pensions, as previously described

RwIPUBPEN and SwIPUBPEN are, respectively, constructed as the sum of respondent's or spouse's income from public retirement and widowhood pensions, public disability pensions, and other public pensions. All components of these variables are constructed at the respondent level and include imputed values. Special missing .m is used if at least one component of RwIPUBPEN or SwIPUBPEN was not imputed because the respondent did not complete the section. RwIPUBPEN and SwIPUBPEN are set to blank missing (.) if the respondent did not participate in the current wave.

RwIFPUBPEN and SwIFPUBPEN are flag variables indicating whether or not any component of RwIPUBPEN or SwIPUBPEN was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

Starting in Wave 3 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, it is not possible to identify pension income after Wave 2 exclusively from public providers and RwIPUBPEN (and its components) cannot be created. A total measure of pension income is available for all waves in the variable RwIPENT.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not include a variable capturing total public pension income like RwIPUBPEN in the Harmonized MHAS. While RwISRET and RwISSDI are generally comparable between Harmonized MHAS and RAND HRS, military pension income which can be included in RwISRET, RwISSDI, or RwIPUBO in the Harmonized MHAS is instead aggregated with other government transfers in RwIGXFR in the RAND HRS.

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income from public pensions in MHAS is measured in nominal pesos, whereas public pension income in the RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value

K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse
Wave 2:	
IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)
IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value
K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse



<b>Individual Other Pensions Income</b>
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Wave	Variable	Label	Type
1	R1IPENO	rlipeno:w1 Income:R Other Pensions	Cont
2	R2IPENO	r2ipeno:w2 Income:R Other Pensions	Cont
1	S1IPENO	slipeno:w1 Income:S Other Pensions	Cont
2	S2IPENO	s2ipeno:w2 Income:S Other Pensions	Cont
1	R1IFPENO	rlifpeno:w1 ImpFlag:R Other Pensions	Categ
2	R2IFPENO	r2ifpeno:w2 ImpFlag:R Other Pensions	Categ
1	S1IFPENO	slifpeno:w1 ImpFlag:S Other Pensions	Categ
2	S2IFPENO	s2ifpeno:w2 ImpFlag:S Other Pensions	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IPENO	15126	577.53	8513.19	0.00	516000.00
R2IPENO	13667	708.97	7814.12	0.00	240000.00
S1IPENO	10632	488.92	8991.61	0.00	516000.00
S2IPENO	9552	688.89	8279.50	0.00	240000.00
R1IFPENO	15186	0.00	0.11	-1.00	1.00
R2IFPENO	13704	0.00	0.10	-1.00	1.00
S1IFPENO	10648	0.00	0.09	-1.00	1.00
S2IFPENO	9564	0.00	0.09	-1.00	1.00

### Categorical Variable Codes

Value-----	R1IFPENO	R2IFPENO
-1.No Imput:section not complete	60	37
0.Not imputed	15014	13575
1.Imputed	112	92

Value-----	S1IFPENO	S2IFPENO
.u:Unmar	4205	4009
.v:SP NR	333	131
-1.No Imput:section not complete	16	12
0.Not imputed	10565	9493
1.Imputed	67	59

### How Constructed

RwIPENO and SwIPENO capture the respondent's and spouse's individual income from other pensions at an annual-level, respectively. RwIPENO and SwIPENO include income from all pensions from an other type of pension provider (not specially a private provider or a public provider), including retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions. Other pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension. If they answer yes, they are then asked

"This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" RwiPENo is derived as yearly income from other pensions by adding the reported monthly other pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income from a other pension provider, RwiPENo has a value of 0. Special missing .m is used if at least one component of RwiPENo was not imputed because the section was not completed. RwiPENo is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions. If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" SwIPENo is derived as yearly income from other pensions by adding the reported monthly other pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income from an other pension provider, SwIPENo has a value of 0. Special missing .m is used if at least one component of SwIPENo was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. SwIPENo is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwiPENo and SwIPENo, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), and 2012 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwiFIPENo and SwiFIPENo are flag variables indicating whether or not any component of RwiPENo or SwIPENo was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates

that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

Starting in Wave 3 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, it is not possible to identify pension income after Wave 2 exclusively from other pension providers and RwIPENO cannot be created. A total measure of pension income is available for all waves in the variable RwIPENT.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not have an equivalent variable. All non-Social Security pension and annuity income in the RAND HRS is captured in RwIPENA.

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income from other pensions in MHAS is measured in nominal pesos, whereas pension income in the RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse

### Wave 2:

IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)
IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value

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K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse

<b>Individual Total Pensions Income</b>
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Wave	Variable	Label	Type
1	R1IPENT	rlipent:w1 Income:R Total Pensions	Cont
2	R2IPENT	r2ipent:w2 Income:R Total Pensions	Cont
3	R3IPENT	r3ipent:w3 Income:R Total Pensions	Cont
4	R4IPENT	r4ipent:w4 Income:R Total Pensions	Cont
1	S1IPENT	slipent:w1 Income:S Total Pensions	Cont
2	S2IPENT	s2ipent:w2 Income:S Total Pensions	Cont
3	S3IPENT	s3ipent:w3 Income:S Total Pensions	Cont
4	S4IPENT	s4ipent:w4 Income:S Total Pensions	Cont
1	R1IFPENT	rlifpent:w1 Impflag:R Total Pensions	Categ
2	R2IFPENT	r2ifpent:w2 Impflag:R Total Pensions	Categ
3	R3IFPENT	r3ifpent:w3 Impflag:R Total Pensions	Categ
4	R4IFPENT	r4ifpent:w4 Impflag:R Total Pensions	Categ
1	S1IFPENT	slifpent:w1 IncFlag:S Total Pensions	Categ
2	S2IFPENT	s2ifpent:w2 IncFlag:S Total Pensions	Categ
3	S3IFPENT	s3ifpent:w3 IncFlag:S Total Pensions	Categ
4	S4IFPENT	s4ifpent:w4 IncFlag:S Total Pensions	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IPENT	15126	4824.18	24227.14	0.00	1896648.00
R2IPENT	13667	6288.96	22764.74	0.00	672000.00
R3IPENT	15721	13151.05	46446.20	0.00	2400000.00
R4IPENT	14745	33634.35	1159588.49	0.00	108000000.00
S1IPENT	10632	4130.69	18826.04	0.00	708000.00
S2IPENT	9552	5927.86	23686.82	0.00	672000.00
S3IPENT	10590	12365.07	49709.32	0.00	2400000.00
S4IPENT	9648	28783.70	919262.22	0.00	90000000.00
R1IFPENT	15186	0.00	0.11	-1.00	1.00
R2IFPENT	13704	0.00	0.10	-1.00	1.00
R3IFPENT	15723	0.02	0.15	-1.00	1.00
R4IFPENT	14779	0.02	0.15	-1.00	1.00
S1IFPENT	10648	0.00	0.09	-1.00	1.00
S2IFPENT	9564	0.00	0.09	-1.00	1.00
S3IFPENT	10592	0.02	0.15	-1.00	1.00
S4IFPENT	9652	0.02	0.14	-1.00	1.00

### Categorical Variable Codes

Value-----	R1IFPENT	R2IFPENT	R3IFPENT	R4IFPENT
-1.No Imput:section not complete	60	37	2	34
0.Not imputed	15014	13575	15337	14430
1.Imputed	112	92	384	315
Value-----	S1IFPENT	S2IFPENT	S3IFPENT	S4IFPENT
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
-1.No Imput:section not complete	16	12	2	4
0.Not imputed	10565	9493	10339	9460
1.Imputed	67	59	251	188

### How Constructed

RwIPENT and SwIPENT capture the respondent's and spouse's total income from pensions at an annual-level, respectively. RwIPENT and SwIPENT include income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, regardless of the provider.

These variables were created to specifically capture pension income after Wave 2, given that it is not possible to separate income from different types of pension providers starting in Wave 3. For all other waves, `RwIPENA`, `RwIPUBPEN`, and `RwIPUBO`, as a group, also capture total income from pensions. Pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension. If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension. If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension. If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions. If they answer yes, they are asked "About how much was it in a typical month?" `RwIPENT` is derived as yearly income from pensions by adding the reported monthly pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income, `RwIPENT` has a value of 0. Special missing `.m` is used if at least one component of `RwIPENT` was not imputed because the section was not completed. `RwIPENT` is set to blank missing (`.`) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension. If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension. If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension. If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions. If they answer yes, they are asked "About how much was it in a typical month?" `SwIPENT` is derived as yearly income from pensions by adding the reported monthly pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income, `SwIPENT` has a value of 0. Special missing `.m` is used if at least one component of `SwIPENT` was not imputed because the section was not completed. Special missing value `.u` is used when the respondent does not have a spouse at this wave. Also, special missing `.v` is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. `SwIPENT` is set to blank missing (`.`) if the respondent did not participate in the current wave.

For questions eliciting a value included in `RwIPENT` and `SwIPENT`, the `MHAS` used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) `MHAS` documents titled "Imputation of Non-Response on Economic Variables in the `MHAS`", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

`RwIFPENT` and `SwIFPENT` are flag variables indicating whether or not any component of `RwIPENT` or `SwIPENT` was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in `MHAS`

Starting in Wave 3 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not have an equivalent variable.

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income from pensions in MHAS is measured in nominal pesos, whereas pension income in the RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse

### Wave 2:

IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)
IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value
K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse

### Wave 3:

IMAMK61_1_12	Own pension income -retirement (imputed)
IMAMK61_2_12	Own pension income -widow (imputed)
IMAMK61_3_12	Own pension income -disability (imputed)
IMAMK61_4_12	Own other pension income (imputed)
IMAMK67_1_12	Spouse's pension income - retirement (imputed)
IMAMK67_2_12	Spouse's pension income - widow (imputed)
IMAMK67_3_12	Spouse's pension income - disability (imputed)
IMAMK67_4_12	Spouse's other pension income (imputed)
K61_1_IMP_12	Own pension income -retirement (Flag if imputed value)
K61_2_IMP_12	Own pension income -widow (Flag if imputed value)
K61_3_IMP_12	Own pension income -disability (Flag if imputed value)
K61_4_IMP_12	Own other pension income (Flag if imputed value)
K67_1_IMP_12	Spouse's pension income - retirement (Flag if imputed v
K67_2_IMP_12	Spouse's pension income - widow (Flag if imputed value)
K67_3_IMP_12	Spouse's pension income - disability (Flag if imputed v
K67_4_IMP_12	Spouse's other pension income (Flag if imputed value)

## Wave 4:

IMAMK61_1_1_15	Own pension income -retirement 1(imputed)
IMAMK61_2_1_15	Own pension income -widow 1(imputed)
IMAMK61_3_1_15	Own pension income -disability 1(imputed)
IMAMK61_4_1_15	Own other pension income 1(imputed)
IMAMK67_1_1_15	Spouse's pension income - retirement 1(imputed)
IMAMK67_2_1_15	Spouse's pension income - widow 1(imputed)
IMAMK67_3_1_15	Spouse's pension income - disability 1(imputed)
IMAMK67_4_1_15	Spouse's other pension income 1(imputed)
K61_1_1_IMP_15	Own pension income -retirement 1(Flag if imputed value)
K61_2_1_IMP_15	Own pension income -widow 1(Flag if imputed value)
K61_3_1_IMP_15	Own pension income -disability 1(Flag if imputed value)
K61_4_1_IMP_15	Own other pension income 1(Flag if imputed value)
K67_1_1_IMP_15	Spouse's pension income - retirement 1(Flag if imputed
K67_2_1_IMP_15	Spouse's pension income - widow 1(Flag if imputed value
K67_3_1_IMP_15	Spouse's pension income - disability 1(Flag if imputed
K67_4_1_IMP_15	Spouse's other pension income 1(Flag if imputed value)



<b>Individual Income from Other Government Transfers</b>
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Wave	Variable	Label	Type
1	R1IGXFR	r1igxfr:w1 Income:R Other Government Transfers	Cont
2	R2IGXFR	r2igxfr:w2 Income:R Other Government Transfers	Cont
3	R3IGXFR	r3igxfr:w3 Income:R Other Government Transfers	Cont
4	R4IGXFR	r4igxfr:w4 Income:R Other Government Transfers	Cont
1	S1IGXFR	s1igxfr:w1 Income:S Other Government Transfers	Cont
2	S2IGXFR	s2igxfr:w2 Income:S Other Government Transfers	Cont
3	S3IGXFR	s3igxfr:w3 Income:S Other Government Transfers	Cont
4	S4IGXFR	s4igxfr:w4 Income:S Other Government Transfers	Cont
1	R1IFGXFR	r1ifgxfr:w1 IncFlag:R Other Government Transfers	Categ
2	R2IFGXFR	r2ifgxfr:w2 IncFlag:R Other Government Transfers	Categ
3	R3IFGXFR	r3ifgxfr:w3 IncFlag:R Other Government Transfers	Categ
4	R4IFGXFR	r4ifgxfr:w4 IncFlag:R Other Government Transfers	Categ
1	S1IFGXFR	s1ifgxfr:w1 IncFlag:S Other Government Transfers	Categ
2	S2IFGXFR	s2ifgxfr:w2 IncFlag:S Other Government Transfers	Categ
3	S3IFGXFR	s3ifgxfr:w3 IncFlag:S Other Government Transfers	Categ
4	S4IFGXFR	s4ifgxfr:w4 IncFlag:S Other Government Transfers	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IGXFR	15126	806.65	9039.99	0.00	672000.00
R2IGXFR	13667	3402.35	85703.57	0.00	9333312.00
R3IGXFR	15721	1740.54	13935.49	0.00	960000.00
R4IGXFR	14763	2269.90	11660.47	0.00	636000.00
S1IGXFR	10632	821.35	9732.48	0.00	672000.00
S2IGXFR	9552	3580.48	100658.09	0.00	9333312.00
S3IGXFR	10590	1558.95	8587.16	0.00	504000.00
S4IGXFR	9651	2153.73	12280.24	0.00	636000.00
R1IFGXFR	15186	0.00	0.09	-1.00	1.00
R2IFGXFR	13704	0.01	0.10	-1.00	1.00
R3IFGXFR	15723	0.01	0.09	-1.00	1.00
R4IFGXFR	14779	0.01	0.10	-1.00	1.00
S1IFGXFR	10648	0.00	0.07	-1.00	1.00
S2IFGXFR	9564	0.01	0.10	-1.00	1.00
S3IFGXFR	10592	0.01	0.08	-1.00	1.00
S4IFGXFR	9652	0.01	0.08	-1.00	1.00

### Categorical Variable Codes

Value-----	R1IFGXFR	R2IFGXFR	R3IFGXFR	R4IFGXFR
-1.No Imput:section not complete	60	37	2	34
0.Not imputed	15052	13559	15596	14634
1.Imputed	74	108	125	111
Value-----	S1IFGXFR	S2IFGXFR	S3IFGXFR	S4IFGXFR
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
-1.No Imput:section not complete	16	12	2	4
0.Not imputed	10591	9475	10522	9587
1.Imputed	41	77	68	61

### How Constructed

RwIGXFR and SwIGXFR capture the respondent's and spouse's other government transfer individual income at an annual-level, respectively. RwIGXFR and SwIGXFR include any monetary or in-kind

transfer from public institutions, not already mentioned. Government transfer income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive any monetary or in-kind transfer from public institutions such as Procampo, Progresas, INSEN, Seguro Popular?" If they answer yes, they are then asked "About how much was it in a typical month?" Rwigxfr is derived as yearly income from other government transfers by multiplying the reported monthly amount by 12. In the case that the respondent did not receive any monetary or in-kind transfers from public institutions, Rwigxfr has a value of 0. Special missing .m is used if at least one component of Rwigxfr was not imputed because the section was not completed. Rwigxfr is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "Excluding income you have already mentioned, during the last year did your spouse receive any monetary or in-kind transfer from public institutions such as Procampo, Progresas, INSEN, Seguro Popular?" If they answer yes, they are then asked "About how much was it in a typical month?" Swigxfr is derived as yearly income from other government transfers by multiplying the reported monthly amount by 12. In the case that the spouse did not receive any monetary or in-kind transfers from public institutions, Swigxfr has a value of 0. Special missing .m is used if at least one component of Swigxfr was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. Swigxfr is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in Rwigxfr and Swigxfr, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

Rwifgxf and Swigxfr are flag variables indicating whether or not any component of Rwigxfr or Swigxfr was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked to report income from veterans' benefits, welfare, and food stamps. In the MHAS, respondents are asked to report any monetary or in-kind transfer from public institutions such as Procampo, Progresas, INSEN, Seguro Popular. Since Seguro Popular started to be implemented in 2003, this institution is only listed starting in wave 2. This difference implies that what is captured in Rwigxfr in the Harmonized MHAS might differ from what is captured by Rwigxfr in the RAND HRS.

In the HRS, respondents are instructed to report other government transfer income before taxes and deductions. In the MHAS, other government transfer income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Other government transfers in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

### MHAS Variables Used

#### Wave 1:

IMAM76A	own transfer income from institutions (imputed)
IMAM79A	spouse's transfer income from institutions (imputed)
K76AIMP	if imputed value
K79AIMP	if imputed value

#### Wave 2:

IMAM79A	own transfer income from institutions (imputed)
IMAM82C	spouse's transfer income from institutions (imputed)
K79AIMP	if imputed value
K82CIMP	if imputed value

#### Wave 3:

IMAMK80_1_12	Own transfer income from institutions (imputed)
IMAMK83_1_12	Spouse's transfer income from institutions (imputed)
K80_1_IMP_12	Own transfer income from institutions (Flag if imputed)
K83_1_IMP_12	Spouse's transfer income from institutions (Flag if imp)

#### Wave 4:

IMAMK80_1_15	Own transfer income from institutions (imputed)
IMAMK83_1_15	Spouse's transfer income from institutions (imputed)
K80_1_IMP_15	Own transfer income from institutions (Flag if imputed)
K83_1_IMP_15	Spouse's transfer income from institutions (Flag if imp)

**All Other Income**

Wave	Variable	Label	Type
1	R1IOTHR	r1iothr:w1 Income:R Other Income	Cont
2	R2IOTHR	r2iothr:w2 Income:R Other Income	Cont
3	R3IOTHR	r3iothr:w3 Income:R Other Income	Cont
4	R4IOTHR	r4iothr:w4 Income:R Other Income	Cont
1	S1IOTHR	s1iothr:w1 Income:S Other Income	Cont
2	S2IOTHR	s2iothr:w2 Income:S Other Income	Cont
3	S3IOTHR	s3iothr:w3 Income:S Other Income	Cont
4	S4IOTHR	s4iothr:w4 Income:S Other Income	Cont
1	R1IFOTHR	r1ifothr:w1 IncFlag:R Other Income	Categ
2	R2IFOTHR	r2ifothr:w2 IncFlag:R Other Income	Categ
3	R3IFOTHR	r3ifothr:w3 IncFlag:R Other Income	Categ
4	R4IFOTHR	r4ifothr:w4 IncFlag:R Other Income	Categ
1	S1IFOTHR	s1ifothr:w1 IncFlag:S Other Income	Categ
2	S2IFOTHR	s2ifothr:w2 IncFlag:S Other Income	Categ
3	S3IFOTHR	s3ifothr:w3 IncFlag:S Other Income	Categ
4	S4IFOTHR	s4ifothr:w4 IncFlag:S Other Income	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IOTHR	15126	55.01	1310.06	0.00	60000.00
R2IOTHR	13667	4860.27	132472.38	0.00	6000000.00
R3IOTHR	15721	12181.17	276542.81	0.00	16800000.00
R4IOTHR	14745	8227.42	212717.13	0.00	14400000.00
S1IOTHR	10632	5.77	346.83	0.00	33600.00
S2IOTHR	9552	4087.97	119575.42	0.00	6000000.00
S3IOTHR	10590	10489.39	266187.48	0.00	16800000.00
S4IOTHR	9648	8909.31	239396.92	0.00	14400000.00
R1IFOTHR	15186	-0.00	0.06	-1.00	1.00
R2IFOTHR	13704	-0.00	0.06	-1.00	1.00
R3IFOTHR	15723	0.01	0.08	-1.00	1.00
R4IFOTHR	14779	0.00	0.08	-1.00	1.00
S1IFOTHR	10648	-0.00	0.04	-1.00	1.00
S2IFOTHR	9564	-0.00	0.04	-1.00	1.00
S3IFOTHR	10592	0.00	0.07	-1.00	1.00
S4IFOTHR	9652	0.00	0.06	-1.00	1.00

**Categorical Variable Codes**

Value	R1IFOTHR	R2IFOTHR	R3IFOTHR	R4IFOTHR
-1.No Imput:section not complete	60	37	2	34
0.Not imputed	15123	13661	15627	14688
1.Imputed	3	6	94	57
Value	S1IFOTHR	S2IFOTHR	S3IFOTHR	S4IFOTHR
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
-1.No Imput:section not complete	16	12	2	4
0.Not imputed	10630	9550	10544	9618
1.Imputed	2	2	46	30

**How Constructed**

RwIOTHR and SwIOTHR capture the respondent's and spouse's other individual income at an annual-level, respectively. RwIOTHR and SwIOTHR include any divorce, separation, or survival pensions, not already mentioned and starting in Wave 2, any income from the sale of some good such as property, a

gift, or an inheritance. Other income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive any divorce, separation or survival pension?" If they answer yes, they are then asked "About how much was it in a typical month?" Starting in Wave 2, the financial respondent is then asked "Excluding income you have already mentioned, during the last year did you receive income for the sale of some good such as property, a gift, or an inheritance?" If they answer yes, they are then asked "About how much was it in a typical month?" In wave 1, RwiOTHR is derived as yearly other income by multiplying the reported monthly amount by 12. Starting in Wave 2, RwiOTHR is derived as yearly other income by multiplying the reported monthly amounts of income from divorce, separation, or survival pensions and income from the sale of some good such as property, a gift, or an inheritance by 12. In the case that the respondent did not receive any income from divorce, separation, or survival pensions or income from the sale of some good such as property, a gift, or an inheritance (starting in Wave 2), RwiOTHR has a value of 0. Special missing .m is used if at least one component of RwiOTHR was not imputed because the section was not completed. RwiOTHR is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "Excluding income you have already mentioned, during the last year did your spouse receive any divorce, separation or survival pension?" If they answer yes, they are then asked "About how much was it in a typical month?" Starting in Wave 2, the financial respondent is then asked "Excluding income you have already mentioned, during the last year did your spouse receive income for the sale of some good such as property, a gift, or an inheritance?" If they answer yes, they are then asked "About how much was it in a typical month?" In wave 1, SwiOTHR is derived as yearly other income by multiplying the reported monthly amount by 12. Starting in Wave 2, SwiOTHR is derived as yearly other income by multiplying the reported monthly amounts of income from divorce, separation, or survival pensions and income from the sale of some good such as property, a gift, or an inheritance by 12. In the case that the spouse did not receive any income from divorce, separation, or survival pensions or income from the sale of some good such as property, a gift, or an inheritance (starting in Wave 2), SwiOTHR has a value of 0. Special missing .m is used if at least one component of SwiOTHR was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. Also, special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. SwiOTHR is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwiOTHR and SwiOTHR, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwiFOTHR and SwiOTHR are flag variables indicating whether or not any component of RwiOTHR or SwiOTHR was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

In Wave 1, MHAS asks respondents about income they received from any divorce, separation or survival pension. Starting in Wave 2, MHAS added a question that asks respondents about income they received from the sale of some good such as property, a gift, or an inheritance. Therefore, RwiOTHR in Wave 1 only takes into account income received from divorce, separation or survival pension, but starting in Wave 2, RwiOTHR takes into account income received from divorce, separation or survival pension and income received from the sale of some good such as property, a gift, or an inheritance.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked to report income from alimony, other income, and lump sums from insurance, pension, and inheritance. In the MHAS, respondents are asked to report income from divorce, separation, or survival pensions and income from the sale of some good such as property, a gift, or an inheritance (starting in Wave 2). This difference implies that what is captured in RwiOTHr in the Harmonized MHAS might differ from what is captured by RwiOTHr in the RAND HRS.

In the HRS, respondents are instructed to report other income before taxes and deductions. In the MHAS, other income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Other income in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM76B	own transfer income from individuals (imputed)
IMAM79B	spouse's transfer income from individuals (imputed)
K76BIMP	if imputed value
K79BIMP	if imputed value

### Wave 2:

IMAM79B	own transfer income from individuals (imputed)
IMAM79C	own transfer income from properties (imputed)
IMAM82D	spouse's transfer income from individuals (imputed)
IMAM82E	spouse's transfer income from properties (imputed)
K79BIMP	if imputed value
K79CIMP	if imputed value
K82DIMP	if imputed value
K82EIMP	if imputed value

### Wave 3:

IMAMK80_2_12	Own transfer income from individuals (imputed)
IMAMK80_3_12	Own transfer income from properties (imputed)
IMAMK83_2_12	Spouse's transfer income from individuals (imputed)
IMAMK83_3_12	Spouse's transfer income from properties (imputed)
K80_2_IMP_12	Own transfer income from individuals (Flag if imputed v
K80_3_IMP_12	Own transfer income from properties (Flag if imputed va
K83_2_IMP_12	Spouse's transfer income from individuals (Flag if impu
K83_3_IMP_12	Spouse's transfer income from properties (Flag if imput

### Wave 4:

IMAMK80_2_15	Own transfer income from individuals (imputed)
IMAMK80_3_15	Own transfer income from properties (imputed)
IMAMK83_2_15	Spouse's transfer income from individuals (imputed)
IMAMK83_3_15	Spouse's transfer income from properties (imputed)
K80_2_IMP_15	Own transfer income from individuals (Flag if imputed v
K80_3_IMP_15	Own transfer income from properties (Flag if imputed va
K83_2_IMP_15	Spouse's transfer income from individuals (Flag if impu
K83_3_IMP_15	Spouse's transfer income from properties (Flag if imput

<b>Total Household Income (respondent &amp; spouse)</b>
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Wave	Variable	Label	Type
1	H1ITOT	h1itot:w1 Incm:H Total Income	Cont
2	H2ITOT	h2itot:w2 Incm:H Total Income	Cont
3	H3ITOT	h3itot:w3 Incm:H Total Income	Cont
4	H4ITOT	h4itot:w4 Incm:H Total Income	Cont
1	H1IFTOT	h1iftot:w1 IncFlag:H Total Inc	Categ
2	H2IFTOT	h2iftot:w2 IncFlag:H Total Inc	Categ
3	H3IFTOT	h3iftot:w3 IncFlag:H Total Inc	Categ
4	H4IFTOT	h4iftot:w4 IncFlag:H Total Inc	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ITOT	14824	87800.20	1303979.98	-5990400.00	90000000.00
H2ITOT	13549	87470.79	944863.57	-26629560.00	36006000.00
H3ITOT	15370	68900.83	979912.38	-47978400.00	43224000.00
H4ITOT	14483	124646.94	1585083.44	-2388000.00	108000000.00
H1IFTOT	15186	0.15	0.37	-1.00	1.00
H2IFTOT	13704	0.14	0.36	-1.00	1.00
H3IFTOT	15723	0.12	0.32	0.00	1.00
H4IFTOT	14779	0.09	0.30	-1.00	1.00

### Categorical Variable Codes

Value-----	H1IFTOT	H2IFTOT	H3IFTOT	H4IFTOT
-1.No Imput:section not complete	62	38		34
0.Not imputed	12760	11658	13842	13331
1.Imputed	2364	2008	1881	1414

### How Constructed

HwITOT captures the household's total income at an annual-level and is based on information from:

Respondent's and spouse's employment earnings, as previously described

Household's total capital income, as previously described

Respondent's and spouse's income from private pensions, as previously described

Respondent's and spouse's income from public pensions, as previously described

Respondent's and spouse's income from other pensions, as previously described

Respondent's and spouse's other government transfer income, as previously described

Respondent's and spouse's other income, as previously described

For unpartnered and unmarried respondents HwITOT is constructed as the sum of the respondent's employment earnings, households' total capital income, respondent's income from private pensions, respondent's income from public pensions, respondent's income from other pensions, respondent's income from other government transfers, and respondent's income from other income. For married/partnered respondents HwITOT is constructed as the sum of the respondent's and spouse's employment earnings, households' total capital income, respondent's and spouse's income from private pensions, respondent's and spouse's income from public pensions, respondent's and spouse's income from other pensions, respondent's and spouse's income from other government transfers, and respondent's and spouse's income from other income. All components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .v is used if the household is a couple but the financial respondent only provided information about one individual (the respondent or the spouse) or the marital status is unknown. Also special missing .m is used if at least one component of HwITOT was not imputed

because the respondent did not complete the section. HwITOT is set to blank missing (.) if the respondent did not participate in the current wave.

HwIFTOT is a flag variable based on the original flag variables (previously defined as RwfEARN, SwIEARN, HwIFCAP, RwfFPENA, SwIPENA, RwfFPUBPEN, SwIFPUBPEN, RwfFPENO, SwIPENO, RwfFGXFR, SwIGXFR, RwfFOTHR, SwIOTHR), indicating whether or not any component of HwITOT was imputed. A code of 0 indicates that no component of HwITOT was imputed. A code of 1 indicates that at least one component of HwITOT was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

See individual components.

Starting in Wave 3 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, after Wave 2 it was not possible to identify pension income by the type of pension provider as we have for earlier waves. As a result, starting in Wave 3, HwITOT is constructed using respondent's and spouses total pension income instead of respondent's and spouse's income from private pensions, respondent's and spouse's income from public pensions, and respondent's and spouse's income from other pensions. This should not affect what is captured by HwITOT in waves after Wave 2 as compared to Waves 1 and 2.

## Differences with the RAND HRS/Harmonized HRS

See individual components.

In the HRS, respondents are instructed to report income before taxes and deductions. In the MHAS, income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Total family income in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

Wave 1:

IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM24_1	property rent income-1 (imputed)
IMAM24_2	property rent income-2 (imputed)
IMAM27_1	property expenditures-1 (imputed)
IMAM27_2	property expenditures-2 (imputed)
IMAM33_1	capital assets income-1 (imputed)
IMAM33_2	capital assets income-2 (imputed)
IMAM33_3	capital assets income-3 (imputed)
IMAM44	own earned income-1 (imputed)
IMAM45	own earned income-2 (imputed)
IMAM47	own earned income-3 (imputed)
IMAM48	own earned income-4 (imputed)
IMAM50	spouse's earned income-1 (imputed)
IMAM51	spouse's earned income-2 (imputed)
IMAM53	spouse's earned income-3 (imputed)
IMAM54	spouse's earned income-4 (imputed)
IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
IMAM76A	own transfer income from institutions (imputed)
IMAM76B	own transfer income from individuals (imputed)
IMAM76B	own transfer income from individuals (imputed)



IMAM79A	spouse's transfer income from institutions (imputed)
IMAM79B	spouse's transfer income from individuals (imputed)
IMAM79B	spouse's transfer income from individuals (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K24_1IMP	if imputed value
K24_2IMP	if imputed value
K27_1IMP	if imputed value
K27_2IMP	if imputed value
K33_1IMP	if imputed value
K33_2IMP	if imputed value
K33_3IMP	if imputed value
K44IMP	if imputed value
K45IMP	if imputed value
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse
K76AIMP	if imputed value
K76BIMP	if imputed value
K76BIMP	if imputed value
K79AIMP	if imputed value
K79BIMP	if imputed value
K79BIMP	if imputed value

## Wave 2:

IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM26_1	property rent income-1 (imputed)
IMAM26_2	property rent income-2 (imputed)
IMAM29_1	property expenditures-1 (imputed)
IMAM29_2	property expenditures-2 (imputed)
IMAM35_1	capital assets income-1 (imputed)
IMAM35_2	capital assets income-2 (imputed)
IMAM35_3	capital assets income-3 (imputed)
IMAM47	own earned income-1 (imputed)
IMAM48	own earned income-2 (imputed)
IMAM50	own earned income-3 (imputed)
IMAM51	own earned income-4 (imputed)
IMAM53	spouse's earned income-1 (imputed)
IMAM54	spouse's earned income-2 (imputed)
IMAM56	spouse's earned income-3 (imputed)
IMAM57	spouse's earned income-4 (imputed)
IMAM79A	own transfer income from institutions (imputed)
IMAM79B	own transfer income from individuals (imputed)
IMAM79C	own transfer income from properties (imputed)
IMAM82C	spouse's transfer income from institutions (imputed)
IMAM82D	spouse's transfer income from individuals (imputed)

IMAM82E	spouse's transfer income from properties (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K26_1IMP	if imputed value
K26_2IMP	if imputed value
K29_1IMP	if imputed value
K29_2IMP	if imputed value
K35_1IMP	if imputed value
K35_2IMP	if imputed value
K35_3IMP	if imputed value
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value
K56IMP	if imputed value
K57IMP	if imputed value
K79AIMP	if imputed value
K79BIMP	if imputed value
K79CIMP	if imputed value
K82CIMP	if imputed value
K82DIMP	if imputed value
K82EIMP	if imputed value

## Wave 3:

IMAMK11_1_12	Business income-1 (imputed)
IMAMK11_2_12	Business income-2 (imputed)
IMAMK13_1_12	Business expenditures-1 (imputed)
IMAMK13_2_12	Business expenditures-2 (imputed)
IMAMK27_1_12	Property rent income-1 (imputed)
IMAMK27_2_12	Property rent income-2 (imputed)
IMAMK29_1_12	Property expenditures-1 (imputed)
IMAMK29_2_12	Property expenditures-2 (imputed)
IMAMK36_1_12	Capital assets income-1 (imputed)
IMAMK36_2_12	Capital assets income-2 (imputed)
IMAMK36_3_12	Capital assets income-3 (imputed)
IMAMK47A_12	Own earned income-1 (imputed)
IMAMK48A_12	Own earned income-2 (imputed)
IMAMK50A_12	Own earned income-3 (imputed)
IMAMK51A_12	Own earned income-4 (imputed)
IMAMK53A_12	Spouse's earned income-1 (imputed)
IMAMK54A_12	Spouse's earned income-2 (imputed)
IMAMK56A_12	Spouse's earned income-3 (imputed)
IMAMK57A_12	Spouse's earned income-4 (imputed)
IMAMK61_1_12	Own pension income -retirement (imputed)
IMAMK61_2_12	Own pension income -widow (imputed)
IMAMK61_3_12	Own pension income -disability (imputed)
IMAMK61_4_12	Own other pension income (imputed)
IMAMK67_1_12	Spouse's pension income - retirement (imputed)
IMAMK67_2_12	Spouse's pension income - widow (imputed)
IMAMK67_3_12	Spouse's pension income - disability (imputed)
IMAMK67_4_12	Spouse's other pension income (imputed)
IMAMK80_1_12	Own transfer income from institutions (imputed)
IMAMK80_2_12	Own transfer income from individuals (imputed)
IMAMK80_3_12	Own transfer income from properties (imputed)
IMAMK83_1_12	Spouse's transfer income from institutions (imputed)
IMAMK83_2_12	Spouse's transfer income from individuals (imputed)
IMAMK83_3_12	Spouse's transfer income from properties (imputed)
K11_1_IMP_12	Business income-1 (Flag if imputed value)
K11_2_IMP_12	Business income-2 (Flag if imputed value)
K13_1_IMP_12	Business expenditures-1 (Flag if imputed value)
K13_2_IMP_12	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_12	Property rent income-1 (Flag if imputed value)
K27_2_IMP_12	Property rent income-2 (Flag if imputed value)
K29_1_IMP_12	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_12	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_12	Capital assets income-1 (Flag if imputed value)

K36_2_IMP_12	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_12	Capital assets income-3 (Flag if imputed value)
K47A_IMP_12	Own earned income-1 (Flag if imputed value)
K48A_IMP_12	Own earned income-2 (Flag if imputed value)
K50A_IMP_12	Own earned income-3 (Flag if imputed value)
K51A_IMP_12	Own earned income-4 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K61_1_IMP_12	Own pension income -retirement (Flag if imputed value)
K61_2_IMP_12	Own pension income -widow (Flag if imputed value)
K61_3_IMP_12	Own pension income -disability (Flag if imputed value)
K61_4_IMP_12	Own other pension income (Flag if imputed value)
K67_1_IMP_12	Spouse's pension income - retirement (Flag if imputed v
K67_2_IMP_12	Spouse's pension income - widow (Flag if imputed value)
K67_3_IMP_12	Spouse's pension income - disability (Flag if imputed v
K67_4_IMP_12	Spouse's other pension income (Flag if imputed value)
K80_1_IMP_12	Own transfer income from institutions (Flag if imputed
K80_2_IMP_12	Own transfer income from individuals (Flag if imputed v
K80_3_IMP_12	Own transfer income from properties (Flag if imputed va
K83_1_IMP_12	Spouse's transfer income from institutions (Flag if imp
K83_2_IMP_12	Spouse's transfer income from individuals (Flag if impu
K83_3_IMP_12	Spouse's transfer income from properties (Flag if impu
Wave 4:	
IMAMK11_1_15	Business income-1 (imputed)
IMAMK11_2_15	Business income-2 (imputed)
IMAMK13_1_15	Business expenditures-1 (imputed)
IMAMK13_2_15	Business expenditures-2 (imputed)
IMAMK27_1_15	Property rent income-1 (imputed)
IMAMK27_2_15	Property rent income-2 (imputed)
IMAMK29_1_15	Property expenditures-1 (imputed)
IMAMK29_2_15	Property expenditures-2 (imputed)
IMAMK36_1_15	Capital assets income-1 (imputed)
IMAMK36_2_15	Capital assets income-2 (imputed)
IMAMK36_3_15	Capital assets income-3 (imputed)
IMAMK47A_15	Own earned income-1 (imputed)
IMAMK48A_15	Own earned income-2 (imputed)
IMAMK50A_15	Own earned income-3 (imputed)
IMAMK51A_15	Own earned income-4 (imputed)
IMAMK53A_15	Spouse's earned income-1 (imputed)
IMAMK54A_15	Spouse's earned income-2 (imputed)
IMAMK56A_15	Spouse's earned income-3 (imputed)
IMAMK57A_15	Spouse's earned income-4 (imputed)
IMAMK61_1_1_15	Own pension income -retirement 1(imputed)
IMAMK61_2_1_15	Own pension income -widow 1(imputed)
IMAMK61_3_1_15	Own pension income -disability 1(imputed)
IMAMK61_4_1_15	Own other pension income 1(imputed)
IMAMK67_1_1_15	Spouse's pension income - retirement 1(imputed)
IMAMK67_2_1_15	Spouse's pension income - widow 1(imputed)
IMAMK67_3_1_15	Spouse's pension income - disability 1(imputed)
IMAMK67_4_1_15	Spouse's other pension income 1(imputed)
IMAMK80_1_15	Own transfer income from institutions (imputed)
IMAMK80_2_15	Own transfer income from individuals (imputed)
IMAMK80_3_15	Own transfer income from properties (imputed)
IMAMK83_1_15	Spouse's transfer income from institutions (imputed)
IMAMK83_2_15	Spouse's transfer income from individuals (imputed)
IMAMK83_3_15	Spouse's transfer income from properties (imputed)
K11_1_IMP_15	Business income-1 (Flag if imputed value)
K11_2_IMP_15	Business income-2 (Flag if imputed value)
K13_1_IMP_15	Business expenditures-1 (Flag if imputed value)

K13_2_IMP_15	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_15	Property rent income-1 (Flag if imputed value)
K27_2_IMP_15	Property rent income-2 (Flag if imputed value)
K29_1_IMP_15	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_15	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_15	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_15	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_15	Capital assets income-3 (Flag if imputed value)
K47A_IMP_15	Own earned income-1 (Flag if imputed value)
K48A_IMP_15	Own earned income-2 (Flag if imputed value)
K50A_IMP_15	Own earned income-3 (Flag if imputed value)
K51A_IMP_15	Own earned income-4 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K61_1_1_IMP_15	Own pension income -retirement 1(Flag if imputed value)
K61_2_1_IMP_15	Own pension income -widow 1(Flag if imputed value)
K61_3_1_IMP_15	Own pension income -disability 1(Flag if imputed value)
K61_4_1_IMP_15	Own other pension income 1(Flag if imputed value)
K67_1_1_IMP_15	Spouse's pension income - retirement 1(Flag if imputed value)
K67_2_1_IMP_15	Spouse's pension income - widow 1(Flag if imputed value)
K67_3_1_IMP_15	Spouse's pension income - disability 1(Flag if imputed value)
K67_4_1_IMP_15	Spouse's other pension income 1(Flag if imputed value)
K80_1_IMP_15	Own transfer income from institutions (Flag if imputed value)
K80_2_IMP_15	Own transfer income from individuals (Flag if imputed value)
K80_3_IMP_15	Own transfer income from properties (Flag if imputed value)
K83_1_IMP_15	Spouse's transfer income from institutions (Flag if imputed value)
K83_2_IMP_15	Spouse's transfer income from individuals (Flag if imputed value)
K83_3_IMP_15	Spouse's transfer income from properties (Flag if imputed value)



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K85IMP	if imputed value
Wave 2:	
IMAMK88	total household consumption (imputed)
K88IMP	if imputed value
Wave 3:	
IMAMK88_12	Total cost household consumption (imputed)
K88_IMP_12	Total cost household consumption (Flag if imputed value)
Wave 4:	
IMAMK88_15	Total cost household consumption (imputed)
K88_IMP_15	Total cost household consumption (Flag if imputed value)

## **Section G: Family Structure**

## Number of People Living in Household

Wave	Variable	Label	Type
1	H1HHRES	h1hhres: w1 Number of people in HH	Cont
2	H2HHRES	h2hhres: w2 Number of people in HH	Cont
3	H3HHRES	h3hhres: w3 Number of people in HH	Cont
4	H4HHRES	h4hhres: w4 Number of people in HH	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1HHRES	15186	4.11	2.29	1.00	19.00
H2HHRES	13704	3.09	2.24	1.00	19.00
H3HHRES	15723	3.00	2.20	1.00	19.00
H4HHRES	14904	2.45	1.74	1.00	19.00

### How Constructed

HwHHRES counts the number of people living in the household, including the respondents.

The number of residents living in a household is obtained using the Household Roster Section (TRH) which includes all members reported to live in the household, as identified by the household respondent, whether or not they are eligible for the MHAS.

In wave 1, the number of household members was derived by counting the number of people reported in the Household Roster. However, starting in wave 2 the number was obtained from the variable included in the Roster that indicates the number of people living in the household. In the case that the respondent and the spouse (if any) lived alone the number was obtained from the H2HHRESP and H3HHRESP variable.

### Cross Wave Differences in MHAS

In wave 1, the Household Roster included the respondent and spouse. Thus, the number of household resident was derived from the count of people reported in the Roster. After wave 2, the Household Roster did not include the respondent and spouse and the list included only other residents, if any. The new questionnaire included then a variable to report the number of household residents. These variables were used to obtain HwHHRES. Also, after wave 2, if the respondent and the spouse (if any) lived alone, the Household Roster was not completed and the number of household members was completed using the HwHHRESP variable available in the Demographics section.

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

### Differences with the RAND HRS/Harmonized HRS

No difference known.

### MHAS Variables Used

Wave 1:		
	TRH2	registration number of household member
Wave 2:		
	TRH2_1	total number of people listed
Wave 3:		
	NTRH2B_12	Interviewer:Report the total number of listed individua
	TRH2B_12	Interviewer:Report the total number of listed individua
Wave 4:		
	NTRH2B_15	Interviewer:Report the total number of listed individua
	TRH2B_15	Interviewer:Report the total number of listed individua



<b>Number of Living Children</b>
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Wave	Variable	Label	Type
1	H1CHILD	h1child: w1 Number of living children R/P	Cont
2	H2CHILD	h2child: w2 Number of living children R/P	Cont
3	H3CHILD	h3child: w3 Number of living children R/P	Cont
4	H4CHILD	h4child: w4 Number of living children R/P	Cont
1	H1SON	h1son: w1 Number of living sons R/P	Cont
2	H2SON	h2son: w2 Number of living sons R/P	Cont
3	H3SON	h3son: w3 Number of living sons R/P	Cont
4	H4SON	h4son: w4 Number of living sons R/P	Cont
1	H1DAU	h1dau: w1 Number of living daughters R/P	Cont
2	H2DAU	h2dau: w2 Number of living daughters R/P	Cont
3	H3DAU	h3dau: w3 Number of living daughters R/P	Cont
4	H4DAU	h4dau: w4 Number of living daughters R/P	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CHILD	15696	5.28	3.12	0.00	21.00
H2CHILD	14069	5.46	3.15	0.00	21.00
H3CHILD	15723	4.78	2.93	0.00	21.00
H4CHILD	14947	4.79	2.89	0.00	21.00
H1SON	15696	2.66	1.93	0.00	13.00
H2SON	14069	2.76	1.96	0.00	13.00
H3SON	15723	2.39	1.82	0.00	13.00
H4SON	14947	2.39	1.80	0.00	13.00
H1DAU	15696	2.63	1.94	0.00	13.00
H2DAU	14069	2.71	1.96	0.00	13.00
H3DAU	15723	2.39	1.84	0.00	12.00
H4DAU	14947	2.44	1.90	0.00	13.00

### How Constructed

HwSON is the number of living sons of the respondent and his/her spouse or partner. HwDAU is the number of living daughters of the respondent and his/her spouse or partner. HwCHILD provides the number of living children of the respondent and his/her spouse or partner.

The number of children is obtained by counting anyone in the Household Roster (TRH) who is a child, step child, adopted child, or foster child, using the relationship variable included in this module. In addition, the variable included the count of non-resident children reported in the Non-Resident Children (MHAS Section B) module. All of the respondent's and spouse's living children are counted for in one total. The number of sons and daughters is obtained following the same process in addition to the reported gender for each child.

### Cross Wave Differences in MHAS

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

### Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS ask respondents to identify foster children in the Household Roster, and they are included in the count of living children.

**MHAS Variables Used**

## Wave 1:

B3 registration number of nonresident child  
 B5 sex of nonresident child  
 B6 relationship of nonresident child to sampled person  
 B7 relationship of nonresident child to spouse of sampled  
 TRH2 registration number of household member  
 TRH5 sex of household member  
 TRH6 relationship of household member to selected person  
 TRH7 relationship of household member to spouse of sel. pers

## Wave 2:

B3 registration number  
 B5 sex  
 B7 residency status  
 TRH10 relationship with spouse  
 TRH3 registration number  
 TRH8 gender  
 TRH9 relationship

## Wave 3:

B3\_12 Follow-up respondent's registration number  
 B5\_12 Sex of non-resident child  
 B7\_12 Residency status of non-resident child  
 NB3\_12 New respondent's registration number  
 NB5\_12 Sex of non-resident child  
 NB6\_12 Non-resident child's relationship to you  
 NB7\_12 Non-resident child's relationship to respondent's spouse  
 NTRH3\_12 Resident's registration number  
 NTRH5\_12 Sex of resident  
 NTRH6\_12 Resident's relationship to respondent  
 NTRH7\_12 Resident's relationship with respondent's spouse  
 TRH10\_12 Resident's relationship to respondent's spouse  
 TRH3\_12 Household Resident registration number  
 TRH8\_12 Resident's Sex  
 TRH9\_12 Resident's relationship to respondent

## Wave 4:

B3\_15 Non-resident Child: Registration number  
 B5\_15 Non-resident Child: Sex  
 B7\_15 Non-resident Child: Residency status of non-resident ch  
 NB3\_15 Non-resident Child: Registration number  
 NB5\_15 Non-resident Child: Sex  
 NB6\_15 Non-resident Child: Relationship to Respondent  
 NB7\_15 Non-resident Child: Relationship to Respondent's spouse  
 NTRH3\_15 Resident's registration number  
 NTRH5\_15 Sex of resident  
 NTRH6\_15 Resident's relationship to respondent  
 NTRH7\_15 Resident's relationship with respondent's spouse  
 TRH10\_15 Resident's relationship to respondent's spouse  
 TRH3\_15 Household resident registration number  
 TRH8\_15 Resident's sex  
 TRH9\_15 Resident's relationship to respondent

**Number of Deceased Children**

Wave	Variable	Label	Type
1	H1DCHILD	h1dchild: w1 Number of deceased children R/P	Cont
2	H2DCHILD	h2dchild: w2 Number of deceased children R/P	Cont
3	H3DCHILD	h3dchild: w3 Number of deceased children R/P	Cont
4	H4DCHILD	h4dchild: w4 Number of deceased children R/P	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1DCHILD	15348	0.75	1.30	0.00	11.00
H2DCHILD	15544	0.76	1.31	0.00	11.00
H3DCHILD	21392	0.65	1.22	0.00	12.00
H4DCHILD	21414	0.67	1.25	0.00	12.00

**How Constructed**

HwDCHILD indicates the number of deceased children of the respondent and his/her spouse or partner.

In wave 1, the number of deceased children is obtained by counting all the deceased children listed in the 'Deceased Children' section that is part of the Non-Resident Children (MHAS Section B) module.

In wave 2, HwDCHILD was obtained by counting the additional deceased children reported in the Household Roster (TRH) and the Non-Resident Children (MHAS Section B) sections. A residential status variable included in the TRH was used to identify the deceased children listed in the Household Roster in the previous wave. In addition, a residential status variable included in Section B was used to identify the deceased children listed in the Non-Resident Children roster. The counts of resident and non-resident children were used to update the number of deceased children in wave 2, adding the total count to the number reported in the previous wave.

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, HwDCHILD was obtained in to different waves for follow-up and the new sample. Similar to wave 1, HwDCHILD was obtained for the new sample by counting the number of all the deceased children listed in the 'Deceased Children' section that is part of the Non-Resident Children (MHAS Section B) module. Similar to wave 2, HwDCHILD was obtained for the follow-up sample by updating the number of deceased children.

**Cross Wave Differences in MHAS**

In wave 2, the 'Deceased Children' section was not asked since the study only included follow-up sample (as well as new spouses) in this wave. However, both the Household Roster (TRH) and the Non-Resident Children (MHAS Section B) sections included a variable to establish the new status in the wave and update the rosters. The residential status variable in the TRH included the following options: Still lives here or temporarily absent, Permanently absent, Deceased, Listed by mistake, and New resident. The residential status in Section B included the following options: Still lives elsewhere Omitted non- resident child, Deceased, Resides in residence of respondent, Listed by mistake. These statuses were used to establish the deceased children not accounted for in the previous wave.

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample. In a similar way to wave 2, the count of deceased children for follow-up households was updated using the residential status variables.

**Differences with the RAND HRS/Harmonized HRS**

Unlike the HRS, the MHAS ask respondents to identify foster children in the Household Roster, and they are included in the count of living children.

**MHAS Variables Used**

Wave 1:	
B25	registration number of deceased children
Wave 2:	
B1	code of respondent
TRH10	relationship with spouse
TRH3	registration number
TRH5	current situation
TRH9	relationship
Wave 3:	
B21B_12	Deceased CHILD: registration number
B3_12	Follow-up respondent's registration number
B7_12	Residency status of non-resident child
NB25_12	New respondent's registration number
TRH10_12	Resident's relationship to respondent's spouse
TRH3_12	Household Resident registration number
TRH5_12	Former Resident's current residential status
TRH9_12	Resident's relationship to respondent
Wave 4:	
B21B_15	Deceased Child: Registration number
B3_15	Non-resident Child: Registration number
B7_15	Non-resident Child: Residency status of non-resident ch
NB25_15	Deceased Child: Registration number
TRH10_15	Resident's relationship to respondent's spouse
TRH3_15	Household resident registration number
TRH5_15	Former resident's current residential status
TRH9_15	Resident's relationship to respondent

<b>Number of Children Ever Born</b>
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Wave	Variable	Label	Type
1	RAEVBRN	raevbrn: Number of children ever born	Cont
1	S1EVBRN	s1evbrn: Number of children ever born	Cont
2	S2EVBRN	s2evbrn: Number of children ever born	Cont
3	S3EVBRN	s3evbrn: Number of children ever born	Cont
4	S4EVBRN	s4evbrn: Number of children ever born	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEVBRN	21961	5.23	3.39	0.00	27.00
S1EVBRN	10635	5.94	3.47	0.00	23.00
S2EVBRN	9835	6.01	3.48	0.00	23.00
S3EVBRN	10555	5.03	3.07	0.00	23.00
S4EVBRN	9814	4.96	2.97	0.00	22.00

### How Constructed

RAEVBRN provides the number of children ever born to the respondent. Number of children ever born does not include stepchildren, adoptions or miscarriages. RAEVBRN is based on responses to the question, "How many children have you had that were born alive?".

RAEVBRN is obtained using the number of children reported in Section A (Demographics), for each respondent. The number is not calculated using the number of children reported the Household Roster (TRH) and in the Non-Resident Children (MHAS Section B) modules.

When respondents don't know, refuse, or their answer is missing for another reason RAEVBRN is assigned special missing values .d, .r, or .m. respectively. RAEVBRN is set to plain missing (.) for respondents who did not respond to the current wave.

The spouse variables SwEVBRN are taken from the Wave 'w' spouse's RAEVBRN variable. Special missing value .u is used when the respondent does not report being coupled in the current wave. Special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

In wave 2, number of children ever born was asked only to new subjects. However, starting in wave 3, the question was asked to new subjects and for follow-up interviews, an additional question was included to verify the number of children ever born reported in the previous waves. If the respondent declared that the number was incorrect the question was asked again. Thus, the variable RAEVBRN was updated with the correct number of children reported.

### Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS explicitly asks respondents to report the number of live births.

### MHAS Variables Used

Wave 1:		
	A19	number of children born alive
Wave 2:		
	AA19	how many children born alive do you have
Wave 3:		

A7_1_12	Respondent's stated number of children born alive corre
A7_2_12	Correct number of children born alive
AA19_12	Respondent's number of children born alive

Wave 4:

A7_1_15	Respondent's stated number of children born alive - Cor
A7_2_15	Correct number of children born alive
AA19_15	Respondent's number of children born alive

**Number of Grandchildren**

Wave Variable	Label	Type
1 H1GRCHILD	h1grchild: w1 Number of grandchildren R/P	Cont
2 H2GRCHILD	h2grchild: w2 Number of grandchildren R/P	Cont
3 H3GRCHILD	h3grchild: w3 Number of grandchildren R/P	Cont
4 H4GRCHILD	h4grchild: w4 Number of grandchildren R/P	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1GRCHILD	15696	9.32	10.34	0.00	89.00
H2GRCHILD	14068	10.31	10.50	0.00	79.00
H3GRCHILD	15723	8.00	8.53	0.00	50.00
H4GRCHILD	14947	9.09	8.76	0.00	50.00

**How Constructed**

HwGRCHILD provides the number of grandchildren of the respondent and his/her spouse (if any). The variable was obtained by adding the number of grandchildren for each resident child (from the Household Roster-TRH) and non-resident children (from the Non-resident Children-Section B).

In both rosters if the respondent listed children, for each child 12 years or older, the MHAS asks the respondent how many children the child has.

**Cross Wave Differences in MHAS**

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

**Differences with the RAND HRS/Harmonized HRS**

Number of grandchildren is included in the RAND HRS Family Data. Unlike the HRS, in MHAS the number of grandchildren is only asked for each child 12 years or older.

**MHAS Variables Used**

Wave 1:	
B16	number of children of nonresident child
TRH15	number of children of household member
Wave 2:	
B15	number of children
TRH17	number of children - resident children
Wave 3:	
B15_12	How many children does non-resident child 12 years or o
NB16_12	How many children does non-resident child have
NTRH15_12	Number of children resident has
TRH17_12	Resident CHILD age 12+: number of children
Wave 4:	
B15_15	Non-resident Child 12 years+: Number of children
NB16_15	Non-resident Child 12 years+: Number of children
NTRH15_15	Number of children resident has
TRH17_15	Resident CHILD 12 years+: Number of children

<b>Number of Living Siblings</b>
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Wave	Variable	Label	Type
1	R1LIVSIB	r1livsib: w1 Number of living siblings	Cont
2	R2LIVSIB	r2livsib: w2 Number of living siblings	Cont
3	R3LIVSIB	r3livsib: w3 Number of living siblings	Cont
4	R4LIVSIB	r4livsib: w4 Number of living siblings	Cont
1	S1LIVSIB	s1livsib: w1 Number of living siblings	Cont
2	S2LIVSIB	s2livsib: w2 Number of living siblings	Cont
3	S3LIVSIB	s3livsib: w3 Number of living siblings	Cont
4	S4LIVSIB	s4livsib: w4 Number of living siblings	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LIVSIB	14826	4.71	3.07	0.00	21.00
R2LIVSIB	13413	4.64	3.03	0.00	21.00
R3LIVSIB	14268	5.06	3.12	0.00	24.00
R4LIVSIB	13474	4.91	3.05	0.00	23.00
S1LIVSIB	10436	5.02	3.08	0.00	21.00
S2LIVSIB	9399	4.96	3.05	0.00	21.00
S3LIVSIB	9757	5.32	3.10	0.00	21.00
S4LIVSIB	8991	5.19	3.02	0.00	23.00

### How Constructed

RwLIVSIB is the number of the respondent's living siblings.

In both wave 1 and wave 2, all participants are asked, "How many siblings who were born alive do you have?". They are then asked, "Of your siblings who were born alive, how many are living now?" In the case that the respondent reports not having any siblings born alive RwLIVSIB is set to 0. In all other cases, RwLIVSIB records the number of living siblings. In wave 3, follow-up participants were only asked "Of your siblings who were born alive, how many are living now?" and only if they reported having sibling in a previous wave or if they didn't know or refused to answer the questions in the previous waves. Starting in wave 4, all participants (follow-up and new sample) were asked both questions. When respondents don't know, refuse, or their answer is missing for another reason, RwLIVSIB is assigned special missing values .d, .r, or .m. respectively. Also starting in wave 3, RwLIVSIB is set to special missing .p if the siblings' questions were skipped because the interview was by proxy. RwLIVSIB is set to plain missing (.) for respondents who did not respond to the current wave.

SwLIVSIB is the number of the spouse's siblings. They are taken from the spouse's RwLIVSIB. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Starting in wave 3, proxy interviews skipped these questions. Also in wave 3, for follow-up interviews the number of siblings ever born was pre-loaded. If the subject reported having siblings in the previous waves they were asked how many are living now. If the subject reported no siblings they skipped the number of living sibling's question. Thus, for follow-up interviews, the total number of living siblings was obtained using the number of siblings ever born reported in the previous waves as well as the number of living siblings reported in wave 3. For the new sample, the total number was obtained similar to the



previous waves. Starting in wave 4, all participants (follow-up and new sample) were asked both questions.

### Differences with the RAND HRS/Harmonized HRS

In Waves 1, 2H, 3H, 4 and 5 of the HRS, this information is provided by the Family Respondent. In all other HRS Waves, each respondent reports the number of his/her living siblings.

### MHAS Variables Used

Wave 1:	
F30	siblings born alive
F31	siblings still alive
Wave 2:	
F34	how many siblings were born alive
F36	how many siblings are still alive
Wave 3:	
F34_12	Respondent's number of siblings born alive
F36_12	Currently:How many of the respondent's siblings are liv
Wave 4:	
F34_15	Respondent's number of siblings born alive
F36_15	Currently: Of the siblings born alive, how many are sti

<b>Number of Deceased Siblings</b>
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Wave	Variable	Label	Type
1	R1DECSIB	r1decsib: w1 Number of deceased siblings	Cont
2	R2DECSIB	r2decsib: w2 Number of deceased siblings	Cont
3	R3DECSIB	r3decsib: w3 Number of deceased siblings	Cont
4	R4DECSIB	r4decsib: w4 Number of deceased siblings	Cont
1	S1DECSIB	s1decsib: w1 Number of deceased siblings	Cont
2	S2DECSIB	s2decsib: w2 Number of deceased siblings	Cont
3	S3DECSIB	s3decsib: w3 Number of deceased siblings	Cont
4	S4DECSIB	s4decsib: w4 Number of deceased siblings	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DECSIB	14826	1.79	2.36	0.00	20.00
R2DECSIB	13413	1.93	2.40	0.00	20.00
R3DECSIB	21999	1.22	2.21	0.00	21.00
R4DECSIB	13474	1.73	2.25	0.00	22.00
S1DECSIB	10436	1.63	2.24	0.00	18.00
S2DECSIB	9399	1.76	2.29	0.00	20.00
S3DECSIB	10580	1.59	2.34	0.00	21.00
S4DECSIB	8991	1.61	2.17	0.00	22.00

### How Constructed

RwDECSIB is the number of the respondent's deceased siblings.

In both wave 1 and wave 2, all participants are asked "How many siblings who were born alive do you have?" They are then asked "Of your siblings who were born alive, how many are living now?" RwDECSIB was obtained by subtracting the number of living siblings by the number of siblings ever born. In the case that the respondent reports not having any siblings born alive RwDECSIB is set to 0. There are cases in which respondents report more living siblings than the number of siblings ever born, in these cases RwDECSIB is assigned a 0 value. When respondents don't know, refuse, or their answer is missing for another reason, RwDECSIB is assigned special missing values .d, .r, or .m. respectively. RwDECSIB is set to special missing (.p) if the siblings' questions were skipped because the interview was by proxy. RwDECSIB is set to plain missing (.) for respondents who did not respond to the current wave.

SwDECSIB is the number of the spouse's deceased siblings. They are taken from the spouse's RwDECSIB. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Starting in wave 3, proxy interviews skipped these questions. Also in wave 3, for follow-up interviews the number of siblings ever born was pre-loaded. If the subject reported having siblings in the previous waves they were asked how many are living now. If the subject reported no siblings they skipped the number of living siblings question. Thus, for follow-up interviews, the total number of deceased siblings was obtained using the number of sibling's ever born reported in the most recent previous waves as well as the number of living siblings reported in wave 3. For the new sample, the total number was obtained similar to the previous waves. Starting in wave 4, all participants (follow-up and new sample) were asked both questions.

## Differences with the RAND HRS/Harmonized HRS

In Waves 1, 2H, 3H, 4 and 5 of the HRS, this information is provided by the Family Respondent. In all other HRS Waves, each respondent reports the number of his/her living siblings.

## MHAS Variables Used

### Wave 1:

F30 siblings born alive  
F31 siblings still alive

### Wave 2:

F34 how many siblings were born alive  
F36 how many siblings are still alive

### Wave 3:

F34\_12 Respondent's number of siblings born alive  
F36\_12 Currently: How many of the respondent's siblings are liv

### Wave 4:

F34\_15 Respondent's number of siblings born alive  
F36\_15 Currently: Of the siblings born alive, how many are sti

<b>Number of Living Parents</b>
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Wave	Variable	Label	Type
1	R1LIVPAR	r1livpar: w1 R Number of living parents	Cont
2	R2LIVPAR	r2livpar: w2 R Number of living parents	Cont
3	R3LIVPAR	r3livpar: w3 R Number of living parents	Cont
4	R4LIVPAR	r4livpar: w4 R Number of living parents	Cont
1	S1LIVPAR	s1livpar: w1 S Number of living parents	Cont
2	S2LIVPAR	s2livpar: w2 S Number of living parents	Cont
3	S3LIVPAR	s3livpar: w3 S Number of living parents	Cont
4	S4LIVPAR	s4livpar: w4 S Number of living parents	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LIVPAR	14904	0.43	0.66	0.00	2.00
R2LIVPAR	13404	0.38	0.62	0.00	2.00
R3LIVPAR	15551	0.52	0.69	0.00	2.00
R4LIVPAR	14582	0.33	0.58	0.00	2.00
S1LIVPAR	10483	0.51	0.69	0.00	2.00
S2LIVPAR	9381	0.45	0.66	0.00	2.00
S3LIVPAR	10471	0.58	0.71	0.00	2.00
S4LIVPAR	9541	0.38	0.62	0.00	2.00

### How Constructed

RwLIVPAR provide the number of the living parents for the respondent. The following is asked in all waves: "Is your mother/father alive now?". When respondents don't know, refuse, or their answer is missing for another reason RwLIVPAR is assigned special missing values .d, .r, or .m. respectively. RwLIVPAR is set to plain missing (.) for respondents who did not respond to the current wave.

SwLIVPAR records the number of living parents of the spouse in the current wave. It is taken from the spouse's RwLIVPAR. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

In wave 3, for follow-up interviews an additional question was added to verify the mother and father status. The new question is "In the last interview, you said your mother/father (was alive/had passed away). Is this correct?" The information from previous waves was preloaded and the options were: "She/he was alive" or "She/he had passed away". This reported status was also used to construct the R3LIVPAR and S3LIVPAR variables. If the subject reported the mother/father had passed away these follow-up questions were skipped. Starting in wave 4, follow-up and new respondents were asked the same questions.

### Differences with the RAND HRS/Harmonized HRS

No difference known.

### MHAS Variables Used

Wave 1:	
F10	father alive
F3	mother alive
Wave 2:	
F12	father presently alive

F3	mother presently alive
Wave 3:	
F10A_12	Last interview:Was respondent's father living
F12_12	Currently:Is respondent's father living
F1A_12	Last interview:Was respondent's mother living
F3_12	Currently:Is respondent's mother living
Wave 4:	
F12_15	Is respondent's father alive
F3_15	Is respondent's mother alive

<b>Parental Mortality</b>
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Wave	Variable	Label	Type
1	R1MOMLIV	r1momliv: w1 R Mother Alive	Categ
2	R2MOMLIV	r2momliv: w2 R Mother Alive	Categ
3	R3MOMLIV	r3momliv: w3 R Mother Alive	Categ
4	R4MOMLIV	r4momliv: w4 R Mother Alive	Categ
1	S1MOMLIV	s1momliv: w1 S Mother Alive	Categ
2	S2MOMLIV	s2momliv: w2 S Mother Alive	Categ
3	S3MOMLIV	s3momliv: w3 S Mother Alive	Categ
4	S4MOMLIV	s4momliv: w4 S Mother Alive	Categ
1	R1DADLIV	r1dadliv: w1 R Father Alive	Categ
2	R2DADLIV	r2dadliv: w2 R Father Alive	Categ
3	R3DADLIV	r3dadliv: w3 R Father Alive	Categ
4	R4DADLIV	r4dadliv: w4 R Father Alive	Categ
1	S1DADLIV	s1dadliv: w1 S Father Alive	Categ
2	S2DADLIV	s2dadliv: w2 S Father Alive	Categ
3	S3DADLIV	s3dadliv: w3 S Father Alive	Categ
4	S4DADLIV	s4dadliv: w4 S Father Alive	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MOMLIV	15045	0.28	0.45	0.00	1.00
R2MOMLIV	13588	0.25	0.43	0.00	1.00
R3MOMLIV	15665	0.34	0.47	0.00	1.00
R4MOMLIV	14705	0.22	0.41	0.00	1.00
S1MOMLIV	10567	0.32	0.47	0.00	1.00
S2MOMLIV	9493	0.29	0.45	0.00	1.00
S3MOMLIV	10554	0.37	0.48	0.00	1.00
S4MOMLIV	9614	0.25	0.43	0.00	1.00
R1DADLIV	14852	0.15	0.36	0.00	1.00
R2DADLIV	13388	0.13	0.34	0.00	1.00
R3DADLIV	15499	0.18	0.39	0.00	1.00
R4DADLIV	14557	0.11	0.31	0.00	1.00
S1DADLIV	10433	0.18	0.39	0.00	1.00
S2DADLIV	9364	0.16	0.36	0.00	1.00
S3DADLIV	10424	0.21	0.41	0.00	1.00
S4DADLIV	9521	0.13	0.33	0.00	1.00

### Categorical Variable Codes

Value-----	R1MOMLIV	R2MOMLIV	R3MOMLIV	R4MOMLIV
.d:DK	103	89	47	33
.m:Missing	34	23		36
.r:Refuse	4	4	11	5
0.No	10860	10198	10355	11518
1.Yes	4185	3390	5310	3187

Value-----	S1MOMLIV	S2MOMLIV	S3MOMLIV	S4MOMLIV
.d:DK	66	61	31	27
.m:Missing	13	7		8
.r:Refuse	2	3	7	3

.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	7155	6736	6616	7246
1.Yes	3412	2757	3938	2368
Value-----	R1DADLIV	R2DADLIV	R3DADLIV	R4DADLIV
.d:DK	296	287	211	182
.m:Missing	34	23		36
.r:Refuse	4	6	13	4
0.No	12603	11642	12663	12987
1.Yes	2249	1746	2836	1570
Value-----	S1DADLIV	S2DADLIV	S3DADLIV	S4DADLIV
.d:DK	200	189	160	121
.m:Missing	13	7		8
.r:Refuse	2	4	8	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	8529	7902	8251	8299
1.Yes	1904	1462	2173	1222

## How Constructed

These variables are taken from the Section F, Parents and Help to Parents. RwMOMLIV and RwDADLIV indicate whether the respondent's mother or father is alive at the current wave. A code of 0 indicates that the respondent's mother or father is not alive and a code of 1 indicates that the respondent's mother or father is alive. When respondents don't know or refuse to answer, RwMOMLIV and RwDADLIV are assigned special missing values .d or .r respectively. RwMOMLIV and RwDADLIV are set to plain missing (.) for respondents who did not respond to the current wave. In Wave 1, the variables are also assigned special missing value .m for the cases that failed to complete Section F (Parents and Help to Parents).

SwMOMLIV and SwDADLIV indicate whether the current wave's spouse's father is alive at the current wave. It is taken from the spouse's RwMOMLIV and RwDADLIV, respectively. In addition to the special missing codes used in RwMOMLIV and RwDADLIV, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

Information about parental mortality is reported in the Section F, Parents and Help to Parents. In waves 1 and 2, the respondents are asked whether his/her mother/father is alive. However in wave 3, follow-up respondents are asked "In the last interview, you said your mother/father (was alive/had passed away). Is this correct?". Respondents can indicate whether she was alive or had passed away. If they indicate the mother was alive they are asked a follow-up question to establish if she is alive in the current wave. For new interviews the question remains the same as in the first two waves. Starting in wave 4, follow-up and new respondents were asked the same questions.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:	
F10	father alive
F3	mother alive
Wave 2:	
F12	father presently alive
F3	mother presently alive
Wave 3:	
F10A_12	Last interview:Was respondent's father living
F12_12	Currently:Is respondent's father living
F1A_12	Last interview:Was respondent's mother living
F3_12	Currently:Is respondent's mother living

Wave 4:  
F12\_15 Is respondent's father alive  
F3\_15 Is respondent's mother alive



<b>Parents' Current Age or Age at Death</b>
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Wave	Variable	Label	Type
1	R1MOMAGE	r1momage: w1 R Mother's age - current/at death	Cont
2	R2MOMAGE	r2momage: w2 R Mother's age - current/at death	Cont
3	R3MOMAGE	r3momage: w3 R Mother's age - current/at death	Cont
4	R4MOMAGE	r4momage: w4 R Mother's age - current/at death	Cont
1	S1MOMAGE	s1momage: w1 S Mother's age - current/at death	Cont
2	S2MOMAGE	s2momage: w2 S Mother's age - current/at death	Cont
3	S3MOMAGE	s3momage: w3 S Mother's age - current/at death	Cont
4	S4MOMAGE	s4momage: w4 S Mother's age - current/at death	Cont
1	R1DADAGE	r1dadage: w1 R Father's age - current/at death	Cont
2	R2DADAGE	r2dadage: w2 R Father's age - current/at death	Cont
3	R3DADAGE	r3dadage: w3 R Father's age - current/at death	Cont
4	R4DADAGE	r4dadage: w4 R Father's age - current/at death	Cont
1	S1DADAGE	s1dadage: w1 S Father's age - current/at death	Cont
2	S2DADAGE	s2dadage: w2 S Father's age - current/at death	Cont
3	S3DADAGE	s3dadage: w3 S Father's age - current/at death	Cont
4	S4DADAGE	s4dadage: w4 S Father's age - current/at death	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MOMAGE	13431	70.85	16.24	15.00	128.00
R2MOMAGE	11906	71.82	16.45	15.00	131.00
R3MOMAGE	14296	73.20	15.95	15.00	128.00
R4MOMAGE	13479	74.69	16.25	15.00	130.00
S1MOMAGE	9546	70.63	15.61	16.00	128.00
S2MOMAGE	8426	71.68	15.92	15.00	128.00
S3MOMAGE	9703	72.97	15.58	15.00	128.00
S4MOMAGE	8927	74.53	15.86	15.00	130.00
R1DADAGE	12629	70.59	16.34	16.00	130.00
R2DADAGE	11181	71.48	16.36	15.00	131.00
R3DADAGE	13537	72.48	15.96	15.00	130.00
R4DADAGE	12721	73.63	16.53	15.00	130.00
S1DADAGE	9091	70.83	15.98	18.00	130.00
S2DADAGE	8082	71.67	16.02	16.00	130.00
S3DADAGE	9289	72.70	15.64	18.00	120.00
S4DADAGE	8504	73.79	16.10	15.00	115.00

### How Constructed

RwMOMAGE and RwDADAGE are the respondent's mother's or father's current age in years if the mother or father is still alive or the respondent's mother's or father's age at death. When respondents don't know or refuse to answer, RwMOMAGE and RwDADAGE are assigned special missing values .d or .r respectively. RwMOMAGE and RwDADAGE are set to plain missing (.) for respondents who did not respond to the current wave. The variables are also assigned special missing value .m for the cases that failed to complete Section F (Parents and Help to Parents).

SwMOMAGE and SwDADAGE are the spouse's mother's or father's current age or age at death. It is taken from the spouse's values to RwMOMAGE and RwDADAGE. In addition to the special missing codes used in RwMOMAGE and RwDADAGE, if the respondent is not designated as coupled in the current wave and assumed to be

single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

#### Wave 1:

F11	age father
F14	age father when died
F4	age mother
F7	age mother when died

#### Wave 2:

F13	age of father
F17	age of father when he passed away
F4	age of mother
F8	age of mother when she passed away

#### Wave 3:

F13_12	Currently:Age of respondent's father
F17_12	At death:How old was respondent's father
F4_12	Currently:Age of respondent's mother
F8_12	At death:How old was respondent's mother

#### Wave 4:

F12_15	Is respondent's father alive
F13_15	Respondent's father age
F17_15	How old was respondent's father when he died
F3_15	Is respondent's mother alive
F4_15	Respondent's mother age
F8_15	How old was respondent's mother when she died

**Parents' Education**

Wave	Variable	Label	Type
1	RAMEDUC_M	rateduc_m: R Mother's Education	Categ
1	S1MEDUC_M	s1meduc_m: w1 S Mother's Education	Categ
2	S2MEDUC_M	s2meduc_m: w2 S Mother's Education	Categ
3	S3MEDUC_M	s3meduc_m: w3 S Mother's Education	Categ
4	S4MEDUC_M	s4meduc_m: w4 S Mother's Education	Categ
1	RAFEDUC_M	rafeduc_m: R Father's Education	Categ
1	S1FEDUC_M	s1feduc_m: w1 S Father's Education	Categ
2	S2FEDUC_M	s2feduc_m: w2 S Father's Education	Categ
3	S3FEDUC_M	s3feduc_m: w3 S Father's Education	Categ
4	S4FEDUC_M	s4feduc_m: w4 S Father's Education	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
RAMEDUC_M	18593	1.69	0.85	1.00	4.00
S1MEDUC_M	9177	1.62	0.81	1.00	4.00
S2MEDUC_M	8527	1.61	0.80	1.00	4.00
S3MEDUC_M	9124	1.69	0.83	1.00	4.00
S4MEDUC_M	8375	1.71	0.84	1.00	4.00
RAFEDUC_M	18065	1.81	0.92	1.00	4.00
S1FEDUC_M	9019	1.74	0.89	1.00	4.00
S2FEDUC_M	8372	1.72	0.87	1.00	4.00
S3FEDUC_M	8876	1.82	0.90	1.00	4.00
S4FEDUC_M	8146	1.83	0.91	1.00	4.00

**Categorical Variable Codes**

Value	RAMEDUC_M
.d:DK	1856
.m:Missing	1091
.p:Proxy interview, not asked	418
.r:Refuse	58
1.None	9665
2.Some primary	6039
3.Primary	1956
4.More than primary	933

Value	S1MEDUC_M	S2MEDUC_M	S3MEDUC_M	S4MEDUC_M
.d:DK	785	726	824	825
.m:Missing	672	601	328	330
.p:Proxy interview, not asked		54	284	258
.r:Refuse	14	14	32	33
.u:Unmar	4205	3755	4782	4846
.v:SP NR	333	27	349	112
1.None	5053	4728	4570	4139
2.Some primary	2886	2707	3196	2959
3.Primary	872	774	936	877
4.More than primary	366	318	422	400

Value	RAFEDUC_M
.d:DK	2374
.m:Missing	1091

.p:Proxy interview, not asked	418			
.r:Refuse	68			
1.None	8259			
2.Some primary	6326			
3.Primary	2044			
4.More than primary	1436			
Value-----	S1FEDUC_M	S2FEDUC_M	S3FEDUC_M	S4FEDUC_M
.d:DK	939	877	1073	1056
.m:Missing	672	601	328	330
.p:Proxy interview, not asked		54	284	258
.r:Refuse	18	18	31	31
.u:Unmar	4205	3755	4782	4846
.v:SP NR	333	27	349	112
1.None	4443	4178	3944	3561
2.Some primary	3082	2886	3253	3026
3.Primary	880	798	1033	961
4.More than primary	614	510	646	598

## How Constructed

RAMEDUC\_M and RAFEDUC\_M are the parent's education variable. They are assigned by looking at reports from the Parents and Help to Parents section (Section F). These variables are constructed by looking at all waves of data for the first non-missing values. A code of 1 indicates no education; a code of 2 indicates 'some primary'; a code of 3 indicates 'primary'; and a code of 4 indicates 'more than primary'. When respondents don't know, refuse, or their answer is missing for another reason, RAMEDUC\_M and RAFEDUC\_M are assigned special missing values .d, .r, or .m. respectively. They are also set to special missing (.p) if the parents' education question was skipped because the interview was by proxy. RAMEDUC\_M and RAFEDUC\_M are set to plain missing (.) for respondents who did not respond to the current wave.

SwMEDUC\_M and SwFEDUC\_M indicate the current wave's spouse's parent's education level. It is taken from the spouse's variables RAMEDUC\_M and RAFEDUC\_M. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the parent's education question in the MHAS does not ask for the number years of education, but for the education level. The MHAS variable is categorical and includes 4 categories to indicate whether the respondent's parents completed 'some primary', 'primary', 'more than primary', or did not complete any formal education.

## MHAS Variables Used

Wave 1:	
F1	mother's education
F8	father's education
Wave 2:	
F1	mother's education
F10	father's education
Wave 3:	
F10B_12	Respondent's father education level
F1B_12	Respondent's mother education level
Wave 4:	
F10_15	Respondent's father education level
F1_15	Respondent's mother education level

**Any Child Co-Resides with Respondent**

Wave	Variable	Label	Type
1	H1CORESD	h1coresd: w1 Any child co-resides with R/P	Categ
2	H2CORESD	h2coresd: w2 Any child co-resides with R/P	Categ
3	H3CORESD	h3coresd: w3 Any child co-resides with R/P	Categ
4	H4CORESD	h4coresd: w4 Any child co-resides with R/P	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CORESD	14943	0.75	0.44	0.00	1.00
H2CORESD	13494	0.77	0.42	0.00	1.00
H3CORESD	15073	0.79	0.41	0.00	1.00
H4CORESD	14396	0.73	0.44	0.00	1.00

**Categorical Variable Codes**

Value	H1CORESD	H2CORESD	H3CORESD	H4CORESD
.k:no kids	753	575	650	551
0.No	3802	3040	3135	3907
1.Yes	11141	10454	11938	10489

**How Constructed**

HwCORESD indicates if the respondent and the spouse co-reside with children. When at least one child (natural, step, adopted, or foster) is listed in the MHAS Household Roster (TRH), a code of 1 is assigned to indicate child co-residence. If no children are included in the MHAS Household Roster, a code of 0 is assigned to indicate no child co-residence. Special missing code .k is assigned if the respondent and spouse (if any) reports not having any living children.

**Cross Wave Differences in MHAS**

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

**Differences with the RAND HRS/Harmonized HRS**

Whether any child co-resides is included in the RAND HRS Family Data.

**MHAS Variables Used**

Wave 1:	
TRH2	registration number of household member
TRH6	relationship of household member to selected person
TRH7	relationship of household member to spouse of sel. pers
Wave 2:	
TRH10	relationship with spouse
TRH3	registration number
TRH9	relationship
Wave 3:	
NTRH3_12	Resident's registration number
NTRH6_12	Resident's relationship to respondent
NTRH7_12	Resident's relationship with respondent's spouse
TRH10_12	Resident's relationship to respondent's spouse
TRH3_12	Household Resident registration number
TRH9_12	Resident's relationship to respondent

## Wave 4:

NTRH3_15	Resident's registration number
NTRH6_15	Resident's relationship to respondent
NTRH7_15	Resident's relationship with respondent's spouse
TRH10_15	Resident's relationship to respondent's spouse
TRH3_15	Household resident registration number
TRH9_15	Resident's relationship to respondent

### Any Children Living in the Same City

Wave	Variable	Label	Type
1	H1LVNEAR	h1lvnear: w1 Any child lives in the same city	Categ
2	H2LVNEAR	h2lvnear: w2 Any child lives in the same city	Categ
3	H3LVNEAR	h3lvnear: w3 Any child lives in the same city	Categ
4	H4LVNEAR	h4lvnear: w4 Any child lives in the same city	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1LVNEAR	14944	0.97	0.18	0.00	1.00
H2LVNEAR	13494	0.97	0.17	0.00	1.00
H3LVNEAR	15073	0.97	0.17	0.00	1.00
H4LVNEAR	14396	0.96	0.19	0.00	1.00

### Categorical Variable Codes

Value	H1LVNEAR	H2LVNEAR	H3LVNEAR	H4LVNEAR
.k:no kids	752	575	650	551
0.No	505	421	470	556
1.Yes	14439	13073	14603	13840

### How Constructed

HwLVNEAR indicates if the respondent and the spouse (if any) live in the same city with at least one of his/her children.

If the respondent and the spouse (if any) co-reside with at least one child (natural, step, adopted, or foster) that is if HwCORESD has a value of 1, a code of 1 is assigned to indicate that the respondent and the spouse live near their children. Also, if the respondent and the spouse list non-resident children in the Non-Resident Children Module (Section B), the MHAS asks "Where does (NAME) live?". A code of 1 was assigned to HwLVNEAR if the respondent and the spouse (if any) indicate that at least one child lives in the same house or building, same locality or neighborhood, or different locality or neighborhood but in the same city. A code of 0 indicates none of the children reported in the Non-Resident Children Module live in the same house or building, same locality or neighborhood, or different locality or neighborhood but in the same city. Special missing code .k is assigned if the respondent and spouse (if any) reports not having any living children.

### Cross Wave Differences in MHAS

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

### Differences with the RAND HRS/Harmonized HRS

The RAND HRS Family Data includes RwLVNEAR which is a categorical variable indicating how closely the child lives to the respondent's home, whether co-resides, lives within 10 miles, or lives more than 10 miles away. Different from the RAND HRS variable, HwLVNEAR in the Harmonized MHAS indicates whether any child lives within the same city as the respondent and/or spouse.

### MHAS Variables Used

Wave 1:	
B18	where does nonresident child live
Wave 2:	
B17	where person lives

Wave 3:  
B17\_12 Where does non-resident child 12 years or older live  
NB18\_12 Where non-resident child lives

Wave 4:  
B17\_15 Non-resident Child 12 years+: Where does he/she live  
NB18\_15 Non-resident Child 12 years+: Where does he/she live



## Any Weekly Contact with Children

Wave	Variable	Label	Type
1	H1KCNT	h1kcnt: w1 Any weekly contact w/ children in person/phone/em	Categ
2	H2KCNT	h2kcnt: w2 Any weekly contact w/ children in person/phone/em	Categ
3	H3KCNT	h3kcnt: w3 Any weekly contact w/ children in person/phone/em	Categ
4	H4KCNT	h4kcnt: w4 Any weekly contact w/ children in person/phone/em	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1KCNT	14944	0.96	0.19	0.00	1.00
H2KCNT	13494	0.97	0.18	0.00	1.00
H3KCNT	15073	0.98	0.15	0.00	1.00
H4KCNT	14396	0.98	0.15	0.00	1.00

### Categorical Variable Codes

Value	H1KCNT	H2KCNT	H3KCNT	H4KCNT
.k:no kids	752	575	650	551
0.No	586	429	365	321
1.Yes	14358	13065	14708	14075

### How Constructed

HwKCNT indicates whether the respondent and the spouse (if any) have weekly contact with any of his/her children on a regular basis.

If the respondent and the spouse (if any) co-reside with at least one child (natural, step, adopted, or foster), that is if HwCORESD has a value of 1, a code 1 is assigned to indicate contact with children. Also, if the respondent and the spouse (if any) list non-resident children in the Non-Resident children module (Section B), the MHAS asks "How often did you (or your spouse) have contact with (NAME) either in person, by mail, or by telephone?" for each listed child. A code 1 is assigned to HwKCNT if they report weekly contact, that is one or more times per week, 4 or more times per month, or 30 times or more per year. A code of 0 indicates that the respondent has less than weekly contact with all of the children reported in the Non-Resident Children Module. Special missing code .k is assigned if the respondent and spouse (if any) reports not having any living children.

### Cross Wave Differences in MHAS

Starting in wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

### Differences with the RAND HRS/Harmonized HRS

The RAND HRS Family Data includes KwCONTYR, which records the frequency of contact with children per year. HwKCNT in the Harmonized MHAS indicates whether the respondent has weekly contact with his/her children.

### MHAS Variables Used

Wave 1:	
B10_1	in the last 2 years, how often did you/your spouse cont
B10_2	in the last 2 years, how often did you/your spouse cont
Wave 2:	
B10_1	contact - times
B10_2	contact - per period

## Wave 3:

B10_1_12	Frequent contact with non-resident child 12 years or ol
B10_2_12	Frequent contact with non-resident child 12 years or ol
NB10_1_12	Last two years, how often contact non-resident child -
NB10_2_12	Last two years, how often contact non-resident child -

## Wave 4:

B10_1_15	Non-resident Child 12 years+: Frequency of contact - Ti
B10_2_15	Non-resident Child 12 years+: Frequency of contact - Pe
NB10_1_15	Non-resident Child 12 years+: Frequency of contact - Ti
NB10_2_15	Non-resident Child 12 years+: Frequency of contact - Pe

**Frequent or weekly contact with relatives and friends**

Wave	Variable	Label	Type
3	R3RFCNT	r3rfcnt: w3 R Any weekly contact w/friends and relatives	Categ
4	R4RFCNT	r4rfcnt: w4 R Any weekly contact w/friends and relatives	Categ
3	S3RFCNT	s3rfcnt: w3 S Any weekly contact w/friends and relatives	Categ
4	S4RFCNT	s4rfcnt: w4 S Any weekly contact w/friends and relatives	Categ
3	R3RFCNTX_M	r3rfcntx_m: w3 R Freq contact w/friends and relatives	Categ
4	R4RFCNTX_M	r4rfcntx_m: w4 R Freq contact w/friends and relatives	Categ
3	S3RFCNTX_M	s3rfcntx_m: w3 S Freq contact w/friends and relatives	Categ
4	S4RFCNTX_M	s4rfcntx_m: w4 S Freq contact w/friends and relatives	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R3RFCNT	14413	0.15	0.36	0.00	1.00
R4RFCNT	13813	0.17	0.38	0.00	1.00
S3RFCNT	9841	0.15	0.36	0.00	1.00
S4RFCNT	9167	0.17	0.38	0.00	1.00
R3RFCNTX_M	14413	8.02	2.39	1.00	9.00
R4RFCNTX_M	13813	7.84	2.59	1.00	9.00
S3RFCNTX_M	9841	8.00	2.41	1.00	9.00
S4RFCNTX_M	9167	7.81	2.61	1.00	9.00

**Categorical Variable Codes**

Value	R3RFCNT	R4RFCNT
.d:DK	3	1
.i:Invalid	25	12
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	7	1
0.No	12271	11436
1.Yes	2142	2377

Value	S3RFCNT	S4RFCNT
.d:DK	2	1
.i:Invalid	17	8
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	6	1
.u:Unmar	4782	4847
.v:SP NR	349	280
0.No	8351	7564
1.Yes	1490	1603

Value	R3RFCNTX_M	R4RFCNTX_M
.d:DK	3	1
.i:Invalid	25	12
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	7	1
1.Almost every day	1101	1255
2.Once a week	166	202
3.2 or 3 times a week	302	354

4.4 or more times a week	98	135
5.Once a month	78	139
6.2 or 3 times a month	96	131
7.4 or more times a month	475	431
8.Almost Never, sporadic	265	
9.Never	11832	11166
Value-----	S3RFCNTX_M	S4RFCNTX_M
.d:DK	2	1
.i:Invalid	17	8
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	6	1
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Almost every day	764	825
2.Once a week	115	150
3.2 or 3 times a week	227	259
4.4 or more times a week	62	86
5.Once a month	55	98
6.2 or 3 times a month	68	99
7.4 or more times a month	322	283
8.Almost Never, sporadic	178	
9.Never	8050	7367

## How Constructed

RwRFCNTX\_M indicates the frequency of contacting with relatives and friends: almost every day, once a week, two or three times a week, four or more times per week, once a month, two or three times a month, four or more times a month, almost never/sporadic, and never.

RwRFCNT indicates whether the respondent has weekly contact with relatives and friends. A code of 1 indicates the respondent has contact with relatives and friends at least once a week, that is RwRFCNTX\_M is either almost every day, once a week, two or three times a week, four or more times a week, or four or more times per month. Otherwise, RwRFCNT is assigned a code of 0 indicating no weekly contact.

RwRFCNTX\_M and RwRFCNT are assigned special missing values .d or .r if respondents don't know or refuse to answer, respectively. The variables are also assigned special missing value .p, for proxy interviews. RwRFCNTX\_M and RwRFCNT are set to plain missing (.) for respondents who did not respond to the current wave. In Wave 1, the variables are assigned special missing value .m for the cases that failed to complete Section D. In addition, RwRFCNTX\_M is assigned special missing value .i to indicate inconsistent frequency, if the respondent reports contact with relatives and friends more than 21 times per week or more than 81 times per month (that is more than 3 times per day).

SwRFCNTX\_M and SwRFCNT are the respective contact with relatives and friends variables for the respondent's spouse or partner. SwRFCNTX\_M and SwRFCNT are taken from the Wave 'w' spouse's value for RwRFCNTX\_M and RwRFCNT. In addition to the special missing codes used in RwRFCNTX\_M and RwRFCNT, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The contact with friends and relatives information was derived from the 'Use of Time' battery included in Section D (Control and Health Services). This battery was included starting in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not include the contact with friends and relatives variables.

## MHAS Variables Used

Wave 3:  
D34A1\_12 Does respondent care for a sick/disabled adult

D34A2_12	Respondent's frequency caring for a sick/disabled adult
D34A3_12	Respondent's time period caring for a sick/disabled adu
Wave 4:	
D34A1_15	Does respondent care for a sick or disabled adult
D34A2_15	Respondent's frequency caring for a sick or disabled ad
D34A3_15	Respondent's time period caring for a sick or disabled

<b>Any weekly social activities or participate religious groups</b>
---

Wave	Variable	Label	Type
3	R3SOCWK	r3socwk: w3 R Any weekly social activities	Categ
4	R4SOCWK	r4socwk: w4 R Any weekly social activities	Categ
3	S3SOCWK	s3socwk: w3 S Any weekly social activities	Categ
4	S4SOCWK	s4socwk: w4 S Any weekly social activities	Categ
3	R3SOCACT_M	r3socact_m: w3 R Freq social activities	Categ
4	R4SOCACT_M	r4socact_m: w4 R Freq social activities	Categ
3	S3SOCACT_M	s3socact_m: w3 S Freq social activities	Categ
4	S4SOCACT_M	s4socact_m: w4 S Freq social activities	Categ
3	R3RELGWK	r3relgwk: w3 R Any weekly participation in religious service	Categ
4	R4RELGWK	r4relgwk: w4 R Any weekly participation in religious service	Categ
3	S3RELGWK	s3relgwk: w3 S Any weekly participation in religious service	Categ
4	S4RELGWK	s4relgwk: w4 S Any weekly participation in religious service	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SOCWK	14445	0.14	0.35	0.00	1.00
R4SOCWK	13826	0.15	0.36	0.00	1.00
S3SOCWK	9863	0.15	0.35	0.00	1.00
S4SOCWK	9176	0.16	0.37	0.00	1.00
R3SOCACT_M	14445	7.82	2.34	1.00	9.00
R4SOCACT_M	13826	7.67	2.44	1.00	9.00
S3SOCACT_M	9863	7.76	2.37	1.00	9.00
S4SOCACT_M	9176	7.57	2.49	1.00	9.00
R3RELGWK	14444	0.36	0.48	0.00	1.00
R4RELGWK	13845	0.39	0.49	0.00	1.00
S3RELGWK	9863	0.36	0.48	0.00	1.00
S4RELGWK	9179	0.38	0.49	0.00	1.00

### Categorical Variable Codes

Value-----	R3SOCWK	R4SOCWK
.d:DK	2	1
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	1	
0.No	12388	11721
1.Yes	2057	2105
Value-----	S3SOCWK	S4SOCWK
.d:DK	2	1
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	1	
.u:Unmar	4782	4847
.v:SP NR	349	280
0.No	8421	7703

1.Yes		1442	1473
Value-----		R3SOCACT_M	R4SOCACT_M
.d:DK		2	1
.m:Missing			23
.p:Proxy interview, not asked		1275	929
.r:Refuse		1	
1.Almost every day		284	247
2.Once a week		815	845
3.2 or 3 times a week		604	642
4.4 or more times a week		224	233
5.Once a month		674	1066
6.2 or 3 times a month		239	322
7.4 or more times a month		130	138
8.Almost Never, sporadic		710	
9.Never		10765	10333
Value-----		S3SOCACT_M	S4SOCACT_M
.d:DK		2	1
.m:Missing			5
.p:Proxy interview, not asked		726	470
.r:Refuse		1	
.u:Unmar		4782	4847
.v:SP NR		349	280
1.Almost every day		198	175
2.Once a week		567	599
3.2 or 3 times a week		424	439
4.4 or more times a week		165	164
5.Once a month		510	780
6.2 or 3 times a month		180	240
7.4 or more times a month		88	96
8.Almost Never, sporadic		508	
9.Never		7223	6683
Value-----		R3RELGWK	R4RELGWK
.d:DK			1
.p:Proxy interview, not asked		1275	929
.r:Refuse		4	4
0.No		9191	8477
1.Yes		5253	5368
Value-----		S3RELGWK	S4RELGWK
.d:DK			1
.p:Proxy interview, not asked		726	470
.r:Refuse		3	2
.u:Unmar		4782	4847
.v:SP NR		349	280
0.No		6326	5655
1.Yes		3537	3524

## How Constructed

RwSOCACT\_M indicates the frequency of participating in social activities including the following: 'Work(ing) as a volunteer or help with a non-profit organization without pay or compensation', 'Assist(ing) in a lecture, seminar or class', and 'Assist(ing) with a sport or social club'. The frequency is coded as: almost every day, once a week, two or three times a week, four or more times per week, once a month, two or three times a month, four or more times a month, almost never/sporadic, or never.

RwSOCWK indicated whether the respondent participates weekly in these social activities. A code of 1 indicates the respondent participates in any of these activities at least once a week, that is RwSOCACT\_M is either almost every day, once a week, two or three times a week, four or more times a week, or four or more times per month. Otherwise, RwSOCWK is assigned a code of 0 indicating no weekly contact.

RwRELGWK indicates whether the respondent participates weekly in 'activities organized by the church'. A code of 1 indicates the respondent participates once or more times per week.

RwSOCACT\_M, Rwsocwk, and RwRELGWK are assigned special missing values .d or .r if respondents don't know or refuse to answer, respectively. The variables are also assigned special missing value .p, for proxy interviews. Rwsocact\_m, Rwsocwk, and RwRELGWK are set to plain missing (.) for respondents who did not respond to the current wave. In Wave 1, the variables are assigned special missing value .m for the cases that failed to complete Section D. In addition, Rwsocact\_m is assigned special missing value .i to indicate inconsistent frequency, if the respondent reports contact with relatives and friends more than 21 times per week or more than 81 times per month (that is more than 3 times per day).

SwSocact\_M, SwSocwk, and SwRELGWK are the respective social and religious activities variables for the respondent's spouse or partner. SwSocact\_M, SwSocwk, and SwRELGWK are taken from the Wave 'w' spouse's value for Rwsocact\_m, Rwsocwk, and RwRELGWK. In addition to the special missing codes used in Rwsocact\_m, Rwsocwk, and RwRELGWK, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The contact with friends and relatives information was derived from the 'Use of Time' battery included in Section D (Control and Health Services). This battery was included starting in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not include the contact with friends and relatives variables.

## MHAS Variables Used

### Wave 3:

A35B_12	Frequency of respondent participating in church activit
D34C1_12	Does respondent volunteer/support an organization witho
D34C2_12	Number of times respondent volunteers
D34C3_12	Respondent's time period used to report volunteering
D34D1_12	Does respondent attend a training course
D34D2_12	Number of times respondent has attended a training cour
D34D3_12	Respondent's time period to report a training course
D34E1_12	Does respondent attend a sporting/social club
D34E2_12	Number of times respondent has attended a sporting/soci
D34E3_12	Respondent's time period used to report sporting/social

### Wave 4:

D34C1_15	Does respondent volunteer/help with a non- profit organ
D34C2_15	Number of times respondent volunteers/helps
D34C3_15	Respondent's time period volunteering/helping
D34D1_15	Does respondent assist a lecture, seminar or class
D34D2_15	Number of times respondent has assisted a lecture, semi
D34D3_15	Respondent's time period assisting a lecture, seminar o
D34E1_15	Does respondent assisting a sport or social club
D34E2_15	Number of times respondent has assisted a sport or soci
D34E3_15	Respondent's time period assisting a sport or social cl



<b>Financial Transfer from Children</b>
---

Wave	Variable	Label	Type
1	H1FCANY	h1fcany: w1 Any transfer from children	Categ
2	H2FCANY	h2fcany: w2 Any transfer from children	Categ
3	H3FCANY	h3fcany: w3 Any transfer from children	Categ
4	H4FCANY	h4fcany: w4 Any transfer from children	Categ
1	H1FCAMT	h1fcamt: w1 Financial transfer from children	Cont
2	H2FCAMT	h2fcamt: w2 Financial transfer from children	Cont
3	H3FCAMT	h3fcamt: w3 Financial transfer from children	Cont
4	H4FCAMT	h4fcamt: w4 Financial transfer from children	Cont
1	H1FCFLAG	h1fcflag: w1 Financial transfer from children - Flag	Categ
2	H2FCFLAG	h2fcflag: w2 Financial transfer from children - Flag	Categ
3	H3FCFLAG	h3fcflag: w3 Financial transfer from children - Flag	Categ
4	H4FCFLAG	h4fcflag: w4 Financial transfer from children - Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1FCANY	14745	0.35	0.48	0.00	1.00
H2FCANY	13439	0.45	0.50	0.00	1.00
H3FCANY	14924	0.35	0.48	0.00	1.00
H4FCANY	14243	0.40	0.49	0.00	1.00
H1FCAMT	14745	24686.65	162508.31	0.00	8542800.00
H2FCAMT	13439	34739.07	288937.73	0.00	26699024.00
H3FCAMT	14570	311.04	1151.77	0.00	71000.00
H4FCAMT	13953	397.92	1118.21	0.00	58180.08
H1FCFLAG	15649	0.05	0.21	0.00	1.00
H2FCFLAG	14039	0.06	0.24	0.00	1.00
H3FCFLAG	15238	0.03	0.18	0.00	1.00
H4FCFLAG	14522	0.02	0.13	0.00	1.00

### Categorical Variable Codes

Value-----	H1FCANY	H2FCANY	H3FCANY	H4FCANY
.d:DK	125	6	18	9
.k:no children	743	589	744	628
.m:Missing	6367	7977	6293	34
.r:Refuse	36	5	37	19
0.No	9645	7422	9697	8507
1.Yes	5100	6017	5227	5736

Value-----	H1FCFLAG	H2FCFLAG	H3FCFLAG	H4FCFLAG
.d:DK			2	4
.k:no children			76	59
.m:Missing	6367	7977	6698	347
.r:Refuse			2	
0.Not imputed	14904	13181	14720	14255
1.Imputed	745	858	518	267

### How Constructed

HwFCANY indicates whether the respondent and spouse received any financial help from their children/grandchildren in the last two years. Respondents are asked: "In the last two years, have you (or

your spouse) received financial or in-kind support from any of your children and/or grandchildren (and those of your spouse)?".

HwFCAMT is the total imputed financial transfer amount the respondent and spouse received from their children/grandchildren in the last year. The monetary or in-kind transfers were reported in weekly, monthly, yearly, or as a unique transfer. The amounts were imputed and calculated to a total amount in a 2-year period by the MHAS team and the imputed variables are available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. The yearly amount represents the sum of the imputed amounts (up to seven different children/grandchildren) divided by 2.

HwFCFLAG indicates whether the derived variable, HwFCAMT, used at least one imputed amount or not.

HwFCANY, HwFCAMT and HwFCFLAG are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are also assigned special missing value .k if the respondent reported no children alive and .m for the cases that failed to complete Section G (Help and Children). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available in the RAND HRS, but are available in the RAND Family data.

The MHAS imputed all the variables used as components of RwfCAMT and RwfCFLAG. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

### Wave 1:

G17	help from children
G18	help from children 5,000
G18_1IMP	if imputed value
G18_2IMP	if imputed value
G18_3IMP	if imputed value
G18_4IMP	if imputed value
G18_5IMP	if imputed value
G18_6IMP	if imputed value
G18_7IMP	if imputed value
IMAM18_1	family help income_1 (imputed)
IMAM18_2	family help income_2 (imputed)
IMAM18_3	family help income_3 (imputed)
IMAM18_4	family help income_4 (imputed)
IMAM18_5	family help income_5 (imputed)
IMAM18_6	family help income_6 (imputed)
IMAM18_7	family help income_7 (imputed)

### Wave 2:

G17	received financial support from (grand)children
G17_1IMP	if imputed value
G17_2IMP	if imputed value
G17_3IMP	if imputed value
G17_4IMP	if imputed value
G17_5IMP	if imputed value
G17_6IMP	if imputed value
G17_7IMP	if imputed value
IMAM17_1	family help income_1 (imputed)
IMAM17_2	family help income_2 (imputed)

```
IMAM17_3      family help income_3 (imputed)
IMAM17_4      family help income_4 (imputed)
IMAM17_5      family help income_5 (imputed)
IMAM17_6      family help income_6 (imputed)
IMAM17_7      family help income_7 (imputed)
```

## Wave 3:

```
G17_12        Last 2 years:Respondent received financial assistance f
G19_1_IMP_12
G19_2_IMP_12
G19_3_IMP_12
G19_4_IMP_12
G19_5_IMP_12
G19_6_IMP_12
G19_7_IMP_12
IMAMG19_1_12  MonthlyReceived 1
IMAMG19_2_12  MonthlyReceived 2
IMAMG19_3_12  MonthlyReceived 3
IMAMG19_4_12  MonthlyReceived 4
IMAMG19_5_12  MonthlyReceived 5
IMAMG19_6_12  MonthlyReceived 6
IMAMG19_7_12  MonthlyReceived 7
```

## Wave 4:

```
G17_15        Last 2 years:Respondent received financial assistance f
G19_1_IMP_15  Family help income_1 (Flag if imputed value)
G19_2_IMP_15  Family help income_2 (Flag if imputed value)
G19_3_IMP_15  Family help income_3 (Flag if imputed value)
G19_4_IMP_15  Family help income_4 (Flag if imputed value)
G19_5_IMP_15  Family help income_5 (Flag if imputed value)
G19_6_IMP_15  Family help income_6 (Flag if imputed value)
G19_7_IMP_15  Family help income_7 (Flag if imputed value)
IMAMG19_1_15  Family help income_1 (imputed)
IMAMG19_2_15  Family help income_2 (imputed)
IMAMG19_3_15  Family help income_3 (imputed)
IMAMG19_4_15  Family help income_4 (imputed)
IMAMG19_5_15  Family help income_5 (imputed)
IMAMG19_6_15  Family help income_6 (imputed)
IMAMG19_7_15  Family help income_7 (imputed)
```

## Financial Transfer to Children

Wave	Variable	Label	Type
1	H1TCANY	h1tcany: w1 Any transfer to children	Categ
2	H2TCANY	h2tcany: w2 Any transfer to children	Categ
3	H3TCANY	h3tcany: w3 Any transfer to children	Categ
4	H4TCANY	h4tcany: w4 Any transfer to children	Categ
1	H1TCAMT	h1tcamt: w1 Financial transfer to children	Cont
2	H2TCAMT	h2tcamt: w2 Financial transfer to children	Cont
3	H3TCAMT	h3tcamt: w3 Financial transfer to children	Cont
4	H4TCAMT	h4tcamt: w4 Financial transfer to children	Cont
1	H1TCFLAG	h1tcflag: w1 Financial transfer to children - Flag	Categ
2	H2TCFLAG	h2tcflag: w2 Financial transfer to children - Flag	Categ
3	H3TCFLAG	h3tcflag: w3 Financial transfer to children - Flag	Categ
4	H4TCFLAG	h4tcflag: w4 Financial transfer to children - Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1TCANY	14776	0.17	0.37	0.00	1.00
H2TCANY	13450	0.18	0.38	0.00	1.00
H3TCANY	14932	0.23	0.42	0.00	1.00
H4TCANY	14243	0.25	0.43	0.00	1.00
H1TCAMT	14776	14973.55	135126.38	0.00	8736000.00
H2TCAMT	13450	20777.86	456241.62	0.00	31200000.00
H3TCAMT	15544	259.68	1161.16	0.00	52500.00
H4TCAMT	14785	254.01	1234.53	0.00	41666.67
H1TCFLAG	15649	0.03	0.17	0.00	1.00
H2TCFLAG	14039	0.02	0.15	0.00	1.00
H3TCFLAG	15544	0.03	0.16	0.00	1.00
H4TCFLAG	14785	0.02	0.13	0.00	1.00

### Categorical Variable Codes

Value-----	H1TCANY	H2TCANY	H3TCANY	H4TCANY
.d:DK	89		17	12
.k:no children	743	589	744	628
.m:Missing	6367	7977	6293	33
.r:Refuse	41		30	18
0.No	12303	11040	11456	10730
1.Yes	2473	2410	3476	3513
Value-----	H1TCFLAG	H2TCFLAG	H3TCFLAG	H4TCFLAG
.d:DK			2	4
.k:no children			76	59
.m:Missing	6367	7977	6391	86
.r:Refuse			3	
0.Not imputed	15185	13709	15154	14530
1.Imputed	464	330	390	255

### How Constructed

HwTCANY indicates whether the respondent and spouse gave any financial help to their children/grandchildren in the last two years. Respondents are asked: "In the last two years, have you (or your spouse) given financial or in-kind support to any of your children and/or grandchildren (and to

those of your spouse)? Include help for education; exclude housing or shared meals and other basic daily expenses."

HwTCAMT is the total imputed financial transfer amount the respondent and spouse gave to their children/grandchildren in the last year. The monetary or in-kind transfers were reported in weekly, monthly, yearly, or as a unique transfer. The amounts were imputed and calculated to a total amount in a 2-year period by the MHAS team and the imputed variables are available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. The yearly amount represents the sum of the imputed amounts (up to seven different children/grandchildren) divided by 2.

HwTCFLAG indicates whether the derived variable, HwTCAMT, used at least one imputed amount or not.

HwTCANY, HwTCAMT and HwTCFLAG are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are also assigned special missing value .k if the respondent reported no children alive and .m for the cases that failed to complete Section G (Help and Children). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available in the RAND HRS, but are available in the RAND Family data.

The MHAS imputed all the variables used as components of RwTCAMT and RwTCFLAG. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

### Wave 1:

G17	help from children
G18	help from children 5,000
G18_1IMP	if imputed value
G18_2IMP	if imputed value
G18_3IMP	if imputed value
G18_4IMP	if imputed value
G18_5IMP	if imputed value
G18_6IMP	if imputed value
G18_7IMP	if imputed value
IMAM18_1	family help income_1 (imputed)
IMAM18_2	family help income_2 (imputed)
IMAM18_3	family help income_3 (imputed)
IMAM18_4	family help income_4 (imputed)
IMAM18_5	family help income_5 (imputed)
IMAM18_6	family help income_6 (imputed)
IMAM18_7	family help income_7 (imputed)

### Wave 2:

G17	received financial support from (grand)children
G17_1IMP	if imputed value
G17_2IMP	if imputed value
G17_3IMP	if imputed value
G17_4IMP	if imputed value
G17_5IMP	if imputed value
G17_6IMP	if imputed value
G17_7IMP	if imputed value
IMAM17_1	family help income_1 (imputed)
IMAM17_2	family help income_2 (imputed)

```
IMAM17_3    family help income_3 (imputed)
IMAM17_4    family help income_4 (imputed)
IMAM17_5    family help income_5 (imputed)
IMAM17_6    family help income_6 (imputed)
IMAM17_7    family help income_7 (imputed)
```

## Wave 3:

```
G7_12      Last 2 years:Did respondent/spouse financially assist c
G8B1_IMP_12
G8B2_IMP_12
G8B3_IMP_12
G8B4_IMP_12
G8B5_IMP_12
G8B6_IMP_12
G8B7_IMP_12
IMAMG8B1_12
IMAMG8B2_12
IMAMG8B3_12
IMAMG8B4_12
IMAMG8B5_12
IMAMG8B6_12
IMAMG8B7_12
```

## Wave 4:

```
G7_15      Last 2 years:Did respondent/spouse financially assist c
G8B1_IMP_15    Financial assistance given_1 (Flag if imputed value)
G8B2_IMP_15    Financial assistance given_2 (Flag if imputed value)
G8B3_IMP_15    Financial assistance given_3 (Flag if imputed value)
G8B4_IMP_15    Financial assistance given_4 (Flag if imputed value)
G8B5_IMP_15    Financial assistance given_5 (Flag if imputed value)
G8B6_IMP_15    Financial assistance given_6 (Flag if imputed value)
G8B7_IMP_15    Financial assistance given_7 (Flag if imputed value)
IMAMG8B1_15    Financial assistance given_1 (imputed)
IMAMG8B2_15    Financial assistance given_2 (imputed)
IMAMG8B3_15    Financial assistance given_3 (imputed)
IMAMG8B4_15    Financial assistance given_4 (imputed)
IMAMG8B5_15    Financial assistance given_5 (imputed)
IMAMG8B6_15    Financial assistance given_6 (imputed)
IMAMG8B7_15    Financial assistance given_7 (imputed)
```

<b>Financial Transfer to Parents</b>
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Wave	Variable	Label	Type
1	R1TPANY	r1tpany: w1 R Any transfer to parents	Categ
2	R2TPANY	r2tpany: w2 R Any transfer to parents	Categ
3	R3TPANY	r3tpany: w3 R Any transfer to parents	Categ
4	R4TPANY	r4tpany: w4 R Any transfer to parents	Categ
1	S1TPANY	s1tpany: w1 S Any transfer to parents	Categ
2	S2TPANY	s2tpany: w2 S Any transfer to parents	Categ
3	S3TPANY	s3tpany: w3 S Any transfer to parents	Categ
4	S4TPANY	s4tpany: w4 S Any transfer to parents	Categ
1	R1TPAMT	r1tpamt: w1 R Financial transfer amount to parents	Cont
2	R2TPAMT	r2tpamt: w2 R Financial transfer amount to parents	Cont
3	R3TPAMT	r3tpamt: w3 R Financial transfer amount to parents	Cont
4	R4TPAMT	r4tpamt: w4 R Financial transfer amount to parents	Cont
1	S1TPAMT	s1tpamt: w1 S Financial transfer amount to parents	Cont
2	S2TPAMT	s2tpamt: w2 S Financial transfer amount to parents	Cont
3	S3TPAMT	s3tpamt: w3 S Financial transfer amount to parents	Cont
4	S4TPAMT	s4tpamt: w4 S Financial transfer amount to parents	Cont
2	R2TPFLAG	r2tpflag: w2 R Financial transfer to parents - Flag	Categ
3	R3TPFLAG	r3tpflag: w3 R Financial transfer to parents - Flag	Categ
4	R4TPFLAG	r4tpflag: w4 R Financial transfer to parents - Flag	Categ
2	S2TPFLAG	s2tpflag: w2 S Financial transfer to parents - Flag	Categ
3	S3TPFLAG	s3tpflag: w3 S Financial transfer to parents - Flag	Categ
4	S4TPFLAG	s4tpflag: w4 S Financial transfer to parents - Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1TPANY	4747	0.46	0.50	0.00	1.00
R2TPANY	3797	0.47	0.50	0.00	1.00
R3TPANY	4627	0.44	0.50	0.00	1.00
R4TPANY	3741	0.49	0.50	0.00	1.00
S1TPANY	3875	0.46	0.50	0.00	1.00
S2TPANY	3079	0.48	0.50	0.00	1.00
S3TPANY	3495	0.44	0.50	0.00	1.00
S4TPANY	2799	0.50	0.50	0.00	1.00
R1TPAMT	4449	1341.16	13292.87	0.00	560251.50
R2TPAMT	3799	2231.44	10199.00	0.00	400000.00
R3TPAMT	4880	1787.13	6277.24	0.00	240000.00
R4TPAMT	3904	2254.30	6520.23	0.00	110000.00
S1TPAMT	3634	1403.63	14500.84	0.00	560251.50
S2TPAMT	3080	2307.71	10938.87	0.00	400000.00
S3TPAMT	3689	1725.33	6590.17	0.00	240000.00
S4TPAMT	2905	2095.75	6131.29	0.00	110000.00
R2TPFLAG	3799	0.12	0.33	0.00	1.00
R3TPFLAG	4880	0.08	0.28	0.00	1.00
R4TPFLAG	3904	0.05	0.21	0.00	1.00
S2TPFLAG	3080	0.12	0.33	0.00	1.00

S3TPFLAG	3689	0.08	0.27	0.00	1.00
S4TPFLAG	2905	0.04	0.20	0.00	1.00

## Categorical Variable Codes

Value-----	R1TPANY	R2TPANY	R3TPANY	R4TPANY
.d:DK	8	4	3	2
.m:Missing	33	22		36
.n:no parents	9361	8703	16109	17307
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	5		2	1
0.No	2557	2004	2613	1922
1.Yes	2190	1793	2014	1819

Value-----	S1TPANY	S2TPANY	S3TPANY	S4TPANY
.d:DK	7	3	3	2
.m:Missing	12	6		8
.n:no parents	6090	5655	6367	6583
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	4		1	1
.u:Unmar	4205	4009	4782	4844
.v:SP NR	333	131	349	72
0.No	2084	1602	1950	1403
1.Yes	1791	1477	1545	1396

Value-----	R2TPFLAG	R3TPFLAG	R4TPFLAG
.m:Missing	24		16
.n:no parents	8703	10843	10859
.p:Proxy interview, not asked	1178		
0.Not imputed	3336	4473	3723
1.Imputed	463	407	181

Value-----	S2TPFLAG	S3TPFLAG	S4TPFLAG
.m:Missing	8		2
.n:no parents	5655	6903	6745
.p:Proxy interview, not asked	821		
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.Not imputed	2705	3398	2778
1.Imputed	375	291	127

## How Constructed

RwTPANY indicates whether the respondent and spouse gave any financial help to their parents in the last two years. Respondents are asked: "In the last 2 years, have you (and/or your spouse) given financial assistance to your parent(s)?".

In Wave 1, RwTPAMT is financial transfer amount the respondent and spouse gave to their parents in the last two years, divided by two. Starting in Wave 2, the monetary or in-kind transfers were imputed by the MHAS team and the imputed variables are available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwTPFLAG indicates whether the derived variable, RwTPAMT, used an imputed amount or not. RwTPFLAG is only available staing in Wave 2.

RwTPANY, RwTPAMT and RwTPFLAG are assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are also assigned special missing value .k if the respondent reported no parents alive and .m for the cases that failed to complete Section F (Parents and Help to Parents). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwTPANY, SwTPAMT and SwTPFLAG are taken from the Wave 'w' spouse's value for RwTPANY, RwTPAMT and RwTPFLAG. In addition to the special missing codes used in RwTPANY, RwTPAMT and RwTPFLAG, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing



value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

In Wave 1, RwTPAMT is the financial transfer amount the respondent and spouse gave to their parents in the last two years, divided by two.

Starting in Wave 2, the monetary or in-kind transfers were imputed by the MHAS team and the imputed variables are available in the study website.

## Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available in the RAND HRS, but are available in the RAND Family data.

The MHAS imputed all the variables used as components of RwTPAMT and RwTPFLAG. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

Wave 1:	
F34	economic help to parents
F35	help to parents 5,000
F36	amount help to parents
Wave 2:	
F40	financial assistance to parents in last two years
F40IMP	if imputed value
IMAMF40	economic help to parents (imputed)
Wave 3:	
F40_12	Last 2 years:Did respondent/spouse provide...assistance
F41_IMP_12	
IMAMF41_12	total expense for assisting parent(s)
Wave 4:	
F40_15	In the last 2 years: Has respondent (and/or spouse) giv
F41_IMP_15	Economic Help to Parents (Flag if imputed value)
IMAMF41_15	Economic Help to Parents (imputed)

## **Section H: Employment History**

### Currently Working for Pay

Wave	Variable	Label	Type
1	R1WORK	r1work: w1 R Currently working for pay	Categ
2	R2WORK	r2work: w2 R Currently working for pay	Categ
3	R3WORK	r3work: w3 R Currently working for pay	Categ
4	R4WORK	r4work: w4 R Currently working for pay	Categ
1	S1WORK	s1work: w1 S Currently working for pay	Categ
2	S2WORK	s2work: w2 S Currently working for pay	Categ
3	S3WORK	s3work: w3 S Currently working for pay	Categ
4	S4WORK	s4work: w4 S Currently working for pay	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WORK	15094	0.44	0.50	0.00	1.00
R2WORK	13652	0.42	0.49	0.00	1.00
R3WORK	15712	0.36	0.48	0.00	1.00
R4WORK	14679	0.38	0.49	0.00	1.00
S1WORK	10601	0.48	0.50	0.00	1.00
S2WORK	9537	0.46	0.50	0.00	1.00
S3WORK	10586	0.40	0.49	0.00	1.00
S4WORK	9594	0.42	0.49	0.00	1.00

### Categorical Variable Codes

Value-----	R1WORK	R2WORK	R3WORK	R4WORK
.d:DK	21	17	3	53
.m:Missing	42	29		40
.r:Refuse	29	6	8	7
0.Not working for pay	8426	7870	10027	9108
1.Working for pay	6668	5782	5685	5571

Value-----	S1WORK	S2WORK	S3WORK	S4WORK
.d:DK	10	15	1	44
.m:Missing	14	7		10
.r:Refuse	23	5	5	4
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.Not working for pay	5550	5132	6379	5555
1.Working for pay	5051	4405	4207	4039

### How Constructed

R1WORK is derived from the question: 'Last week did you... Worked, Did not work but you had a job, Looked for work, Were a student, Dedicated self to household chores, or Did not work?'. The 'Worked' and 'Did not work but had a job' answers were treated as currently 'Working for pay'. The rest of the answers were treated as 'Not working for pay'. After Wave 2, R2WORK was derived from the question: 'Are you currently... Working, Looking for work, or Don't work'. The 'Looking for work' and 'Don't work' answers were treated as currently 'Not Working for pay'. R2WORK simply recodes the variables to a yes/no indicator and for missing values.

R2WORK is assigned special missing values .d or .r, if Don't know or Refused, respectively. In Waves 1 and 2, R2WORK is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwWORK is taken from the Wave 'w' spouse's value for RwWORK. In addition to the special missing codes used in RwWORK, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. First, the content of the section was revised and modified each wave. Second, the dynamics of the section (determined by the skip patterns) was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' and 'Principal Occupation' questions. Also, in Wave 1 respondents were asked 'Last week did you... Worked, Did not work but you had a job, Looked for work, Were a student, Dedicated self to household chores, or Did not work?'. After Wave 2, respondents were asked 'Are you currently... Working, Looking for work, or Don't work'.

### Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

### MHAS Variables Used

Wave 1:	
I1	ever had a job
I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I16_15	Current labor force status
I3_15	Has respondent ever helped in a business, farm, or ranc

## Whether Self-Employed

Wave	Variable	Label	Type
1	R1SLFEMP	r1slfemp: w1 R Whether Self-Employed	Categ
2	R2SLFEMP	r2slfemp: w2 R Whether Self-Employed	Categ
3	R3SLFEMP	r3slfemp: w3 R Whether Self-Employed	Categ
4	R4SLFEMP	r4slfemp: w4 R Whether Self-Employed	Categ
1	S1SLFEMP	s1slfemp: w1 S Whether Self-Employed	Categ
2	S2SLFEMP	s2slfemp: w2 S Whether Self-Employed	Categ
3	S3SLFEMP	s3slfemp: w3 S Whether Self-Employed	Categ
4	S4SLFEMP	s4slfemp: w4 S Whether Self-Employed	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SLFEMP	6668	0.33	0.47	0.00	1.00
R2SLFEMP	1702	0.40	0.49	0.00	1.00
R3SLFEMP	5682	0.36	0.48	0.00	1.00
R4SLFEMP	5519	0.45	0.50	0.00	1.00
S1SLFEMP	5045	0.33	0.47	0.00	1.00
S2SLFEMP	1299	0.38	0.49	0.00	1.00
S3SLFEMP	4205	0.35	0.48	0.00	1.00
S4SLFEMP	3993	0.46	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1SLFEMP	R2SLFEMP	R3SLFEMP	R4SLFEMP
.d:DK	17	30	4	103
.m:Missing	42	29		40
.r:Refuse	32	7	10	9
.s:Skip		4066		
.w:not working	8427	7870	10027	9108
0.Not self-employed	4471	1018	3643	3016
1.Self-employed	2197	684	2039	2503

Value-----	S1SLFEMP	S2SLFEMP	S3SLFEMP	S4SLFEMP
.d:DK	12	27	2	89
.m:Missing	14	7		10
.r:Refuse	27	6	6	5
.s:Skip		3093		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.w:not working	5550	5132	6379	5555
0.Not self-employed	3400	801	2722	2171
1.Self-employed	1645	498	1483	1822

### How Constructed

RwSLFEMP is derived from the question: 'In your current primary job you are a(n)...' with the possible responses: boss, self-employed, employee in a co-op, employee with fixed salary, employee working on commission, non-family worker without pay, family worker without pay'. RwSLFEMP simply recodes this variable to a yes/no indicator and for missing values.

RwSLFEMP is set to .w, if the respondent is currently not working (that is if RwwORK is 0). RwSLFEMP is also assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave. In Wave 2, RwSLFEMP is also set to special missing value .s to indicate that the 'Principal Occupation' questions are not available because they were skipped for follow-up interviews.

SwSLFEMP is taken from the Wave 'w' spouse's value for RwSLFEMP. In addition to the special missing codes used in RwSLFEMP, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

### Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

### MHAS Variables Used

#### Wave 1:

I1 ever had a job  
I10 main position  
I2 job without payment

#### Wave 2:

I16 work status  
I19 current work roles similar to past roles  
I21 type of employee  
I7 type of employee

#### Wave 3:

I16\_12 Current work status  
I19\_12 Current work activities are similar to activities over  
I21\_12 Current job: position at work  
I3\_12 Have you ever/since last time we spoke, worked without  
I7\_12 In this main job, what has been (was) your position at

#### Wave 4:

I16\_15 Current labor force status  
I19\_15 Current occupation: Are activities at respondent's cure  
I21\_15 Respondent's position in his/her current primary job  
I3\_15 Has respondent ever helped in a business, farm, or ranc  
I7\_15 Respondent's position in this primary job

<b>Labor Force Status</b>
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Wave	Variable	Label	Type
1	R1LBRF_M	r1lbrf_m: w1 R Labor force status	Categ
2	R2LBRF_M	r2lbrf_m: w2 R Labor force status	Categ
3	R3LBRF_M	r3lbrf_m: w3 R Labor force status	Categ
4	R4LBRF_M	r4lbrf_m: w4 R Labor force status	Categ
1	S1LBRF_M	s1lbrf_m: w1 S Labor force status	Categ
2	S2LBRF_M	s2lbrf_m: w2 S Labor force status	Categ
3	S3LBRF_M	s3lbrf_m: w3 S Labor force status	Categ
4	S4LBRF_M	s4lbrf_m: w4 S Labor force status	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LBRF_M	15094	3.42	2.18	1.00	6.00
R2LBRF_M	13659	2.99	1.84	1.00	5.00
R3LBRF_M	15715	3.17	1.78	1.00	5.00
R4LBRF_M	14701	3.06	1.76	1.00	5.00
S1LBRF_M	10601	3.28	2.21	1.00	6.00
S2LBRF_M	9543	2.85	1.84	1.00	5.00
S3LBRF_M	10588	3.05	1.80	1.00	5.00
S4LBRF_M	9611	2.92	1.78	1.00	5.00

### Categorical Variable Codes

Value-----	R1LBRF_M	R2LBRF_M	R3LBRF_M	R4LBRF_M
.d:DK	21	11	3	32
.m:Missing	42	29		40
.r:Refuse	29	5	5	6
1.Working	6667	5782	5685	5571
2.Unemployed		284	255	206
3.Retired		1305	1869	2106
4.Disabled		835	1555	1473
5.Not in labor force	5551	5453	6351	5345
6.Unemployed, Retired or Disabled	2876			

Value-----	S1LBRF_M	S2LBRF_M	S3LBRF_M	S4LBRF_M
.d:DK	10	10	1	27
.m:Missing	14	7		10
.r:Refuse	23	4	3	4
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Working	5051	4405	4207	4039
2.Unemployed		212	184	139
3.Retired		878	1204	1305
4.Disabled		516	900	789
5.Not in labor force	3529	3532	4093	3339
6.Unemployed, Retired or Disabled	2021			

### How Constructed

RwLBRF\_M is an MHAS specific variable; it summarizes the labor force status for the respondent at each wave indicating one of the following statuses: 1 working, 2 unemployed, 3 retired, 4 disabled, 5 not in the labor force. In Wave 1, RwLBRF\_M includes an additional status that indicates if the respondent is either unemployed, retired, or disabled. This extra category had to be created because the questions included in Wave 1, did not allow to distinguish between categories 2, 3 and 4.

RwLBRF\_M is derived from different questions that are available each wave. These questions allow us to establish if the respondent has ever work and if he/she is currently working. An additional question also indicates the main reason the respondent is not currently working. The following are the different reasons for not currently working: dedicated to household chores, retired, old age, sick or temporarily disabled, unable to work for rest of life, and doesn't have customers or can't find work. The reason for not working question is not included in Wave 1.

If the respondent indicates he/she is currently working, RwLBRF\_M is set to working. If the respondent indicates he/she is currently looking for work, or does not work but 'doesn't have customers or can't find work', RwLBRF\_M is set to unemployed. If the respondent indicates he/she is retired, regardless if he/she is currently working, RwLBRF\_M is set to retired. If the respondent is sick or temporarily disabled' or 'unable to work for rest of life', RwLBRF\_M is set to disabled. Otherwise, RwLBRF\_M is set to "not in the labor force".

RwLBRF\_M is assigned special missing values .d or .r, if Don't know or Refused, respectively. In Waves 1 and 2, RwLBRF\_M is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwLBRF\_M summarizes the labor force status for the respondent's spouse or partner. SwLBRF\_M is taken from the Wave 'w' spouse's value for RwLBRF\_M. In addition to the special missing codes used in RwLBRF\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In particular, the reason for not working question is not included in Wave 1. This affects the derivation of the RwLBRF\_M and an additional category had to be created because it was not possible to distinguish between unemployed, retired and disabled.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. Also, the reason for not working question is not asked if the respondent reported he/she is currently working.

## MHAS Variables Used

Wave 1:	
I1	ever had a job
I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I26	main reason for not working
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I26_2_12	Reason for not working - retired
I26_4_12	Reason for not working - sick or temporary disability
I26_5_12	Reason for not working - unable to work rest of life
I26_6_12	Reason for not working - no customers or work
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired



I26_4_15	Reason respondent does not work: Sick or temporarily di
I26_5_15	Reason respondent does not work: Unable to work for res
I26_6_15	Reason respondent does not work: Doesn't have customers
I3_15	Has respondent ever helped in a business, farm, or ranc

**In the Labor Force**

Wave	Variable	Label	Type
2	R2INLBRF	r2inlbrf: w2 R In the Labor Force	Categ
3	R3INLBRF	r3inlbrf: w3 R In the Labor Force	Categ
4	R4INLBRF	r4inlbrf: w4 R In the Labor Force	Categ
2	S2INLBRF	s2inlbrf: w2 S In the Labor Force	Categ
3	S3INLBRF	s3inlbrf: w3 S In the Labor Force	Categ
4	S4INLBRF	s4inlbrf: w4 S In the Labor Force	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R2INLBRF	13659	0.44	0.50	0.00	1.00
R3INLBRF	15715	0.38	0.48	0.00	1.00
R4INLBRF	14701	0.39	0.49	0.00	1.00
S2INLBRF	9543	0.48	0.50	0.00	1.00
S3INLBRF	10588	0.41	0.49	0.00	1.00
S4INLBRF	9611	0.43	0.50	0.00	1.00

**Categorical Variable Codes**

Value	R2INLBRF	R3INLBRF	R4INLBRF
.d:DK	11	3	32
.m:Missing	29		40
.r:Refuse	5	5	6
0.No	7593	9775	8924
1.Yes	6066	5940	5777

Value	S2INLBRF	S3INLBRF	S4INLBRF
.d:DK	10	1	27
.m:Missing	7		10
.r:Refuse	4	3	4
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.No	4926	6197	5433
1.Yes	4617	4391	4178

**How Constructed**

RwINLBRF is an indicator for whether the respondent is considered part of the labor force as defined by the Bureau of Labor Statistics (BLS). Briefly, this definition considers those who are working for pay or those who are not working but actively seeking work as part of the labor force.

RwINLBRF is derived using the summary of the labor force status variable for the respondent at each wave, RwlBRF\_M. RwlBRF\_M indicates one of the following statuses: 1 working, 2 unemployed, 3 retired, 4 disabled, 5 not in the labor force. Since the questions included in Wave 1 did not allow to distinguish between categories unemployed, retired, and disabled status, RwINLBRF is only available starting Wave 2. Reflecting the BLS definition of being in the labor force, RwINLBRF is categorized as 1 if the respondent is working or unemployed and RwINLBRF is categorized as two for all other labor force statuses.

RwINLBRF is assigned special missing values .d or .r, if Don't know or Refused, respectively. In Waves 1 and 2, RwINLBRF is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwINLBRF is an indicator for whether the respondent's spouse is considered part of the labor force. SwINLBRF is taken from the Wave 'w' spouse's value for RwINLBRF. In addition to the special missing codes

used in `RwINLBRF`, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of `.u` is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of `.v` is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

Since the questions included in Wave 1 did not allow to distinguish between categories unemployed, retired, and disabled status, `RwINLBRF` is only available starting Wave 2.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

## MHAS Variables Used

### Wave 2:

I16	work status
I26	main reason for not working
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I26_2_12	Reason for not working - retired
I26_4_12	Reason for not working - sick or temporary disability
I26_5_12	Reason for not working - unable to work rest of life
I26_6_12	Reason for not working - no customers or work
I26_8_12	Reason for not working - RF
I26_9_12	Reason for not working - DK
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I26_4_15	Reason respondent does not work: Sick or temporarily di
I26_5_15	Reason respondent does not work: Unable to work for res
I26_6_15	Reason respondent does not work: Doesn't have customers
I26_8_15	Reason respondent does not work: RF
I26_9_15	Reason respondent does not work: DK
I3_15	Has respondent ever helped in a business, farm, or ranc

## Unemployment Status

Wave	Variable	Label	Type
1	R1UNEMP	r1unemp: w1 R Unemployed	Categ
2	R2UNEMP	r2unemp: w2 R Unemployed	Categ
3	R3UNEMP	r3unemp: w3 R Unemployed	Categ
4	R4UNEMP	r4unemp: w4 R Unemployed	Categ
1	S1UNEMP	s1unemp: w1 S Unemployed	Categ
2	S2UNEMP	s2unemp: w2 S Unemployed	Categ
3	S3UNEMP	s3unemp: w3 S Unemployed	Categ
4	S4UNEMP	s4unemp: w4 S Unemployed	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1UNEMP	6728	0.01	0.09	0.00	1.00
R2UNEMP	6104	0.05	0.22	0.00	1.00
R3UNEMP	5982	0.05	0.22	0.00	1.00
R4UNEMP	5808	0.04	0.20	0.00	1.00
S1UNEMP	5094	0.01	0.09	0.00	1.00
S2UNEMP	4643	0.05	0.22	0.00	1.00
S3UNEMP	4421	0.05	0.21	0.00	1.00
S4UNEMP	4200	0.04	0.19	0.00	1.00

### Categorical Variable Codes

Value-----	R1UNEMP	R2UNEMP	R3UNEMP	R4UNEMP
.d:DK	21	11	3	32
.m:Missing	42	29		40
.r:Refuse	29	5	5	6
.x:Not working/never worked	8366	7555	9733	8893
0.No	6668	5782	5685	5571
1.Yes	60	322	297	237

Value-----	S1UNEMP	S2UNEMP	S3UNEMP	S4UNEMP
.d:DK	10	10	1	27
.m:Missing	14	7		10
.r:Refuse	23	4	3	4
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:Not working/never worked	5507	4900	6167	5411
0.No	5051	4405	4207	4039
1.Yes	43	238	214	161

### How Constructed

RwUNEMP indicates whether the respondent is considered unemployed, including the respondents that report they are not working but seeking work as unemployed. The derivation uses questions about current work status and reason for not working.

If the respondent reports he/she is currently 'looking for work', RwUNEMP is set to 'unemployed'. If the respondent indicates he/she 'does not work' and the reason for not working is 'doesn't have customers or can't find work', RwUNEMP is also set to unemployed. Otherwise, RwUNEMP is set to 0.

RwUNEMP is assigned special missing values .d or .r, if Don't know or Refused, respectively. If the respondent is not working and the reason for not working isn't 'doesn't have customers or can't find work' or if he/she has never worked, RwUNEMP is also assigned special missing values .x. In Waves 1 and

2, RwUNEMP is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwUNEMP is taken from the Wave 'w' spouse's value for RwUNEMP. In addition to the special missing codes used in RwUNEMP, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In particular, the reason for not working question is not included in Wave 1. This affects the derivation of the RwLBRF\_M and an additional category had to be created because it was not possible to distinguish between unemployed, retired, and disabled. Also, in Wave 1 respondents were asked 'Last week did you... Worked, Did not work but you had a job, Looked for work, Were a student, Dedicated self to household chores, or Did not work?'. After Wave 2, respondents were asked 'Are you currently... Working, Looking for work, or Don't work'.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. Also different to the HRS, the reason for not working question is not asked if the respondent reported he/she is currently working.

## MHAS Variables Used

Wave 1:	
I1	ever had a job
I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I26	main reason for not working
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I26_6_12	Reason for not working - no customers or work
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I16_15	Current labor force status
I26_6_15	Reason respondent does not work: Doesn't have customers
I3_15	Has respondent ever helped in a business, farm, or ranc

## Retired Employment Status

Wave	Variable	Label	Type
2	R2RETEMP	r2retemp: w2 R Retired employment status	Categ
3	R3RETEMP	r3retemp: w3 R Retired employment status	Categ
4	R4RETEMP	r4retemp: w4 R Retired employment status	Categ
2	S2RETEMP	s2retemp: w2 S Retired employment status	Categ
3	S3RETEMP	s3retemp: w3 S Retired employment status	Categ
4	S4RETEMP	s4retemp: w4 S Retired employment status	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2RETEMP	13632	0.10	0.29	0.00	1.00
R3RETEMP	15714	0.15	0.41	0.00	2.00
R4RETEMP	14695	0.17	0.43	0.00	2.00
S2RETEMP	9517	0.09	0.29	0.00	1.00
S3RETEMP	10587	0.14	0.39	0.00	2.00
S4RETEMP	9607	0.16	0.40	0.00	2.00

### Categorical Variable Codes

Value	R2RETEMP	R3RETEMP	R4RETEMP
.d:DK	14	3	38
.m:Missing	52		40
.r:Refuse	6	6	6
0.Working	12327	13736	12496
1.Retired	1305	1628	1891
2.Retired and other status		350	308

Value	S2RETEMP	S3RETEMP	S4RETEMP
.d:DK	12	1	31
.m:Missing	30		10
.r:Refuse	5	4	4
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.Working	8639	9315	8252
1.Retired	878	1086	1204
2.Retired and other status		186	151

### How Constructed

RwRETEMP is derived from two different questions available only starting in Wave 2. Also, starting in Wave 3 the respondent can report a retired status alone or in addition to other statuses, such as disabled, doesn't have customers or can't find work, or dedicated to household chores. In Wave 1, RwRETEMP is only set to 1 if the respondent reports a retired status. Likewise in Wave 1, RwRETEMP is only set to 0 if no retirement status is reported at all. However, starting in Wave 2, RwRETEMP is set to 1 if the respondent reports only a retired status, to 2 if he/she reports being retired in addition to other statuses, or to 0 if no retirement status is reported at all.

RwRETEMP is assigned special missing values .d or .r, if Don't know or Refused, respectively. In Waves 1 and 2, RwRETEMP is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwRETEMP is taken from the Wave 'w' spouse's value for RwRETEMP. In addition to the special missing codes used in RwRETEMP, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In particular, the reason for not working question is not included in Wave 1. This affects the derivation of the RwlBRF\_M and an additional category had to be created because it was not possible to distinguish between unemployed, retired and disabled.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. Also different to the HRS, the reason for not working question is not asked if the respondent reported he/she is currently working.

## MHAS Variables Used

### Wave 2:

I16	work status
I26	main reason for not working
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I26_1_12	Reason for not working - dedicated to household chores
I26_2_12	Reason for not working - retired
I26_3_12	Reason for not working - old age
I26_4_12	Reason for not working - sick or temporary disability
I26_5_12	Reason for not working - unable to work rest of life
I26_6_12	Reason for not working - no customers or work
I26_7_12	Reason for not working - other
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I26_1_15	Reason respondent does not work: Dedicated to household
I26_2_15	Reason respondent does not work: Retired
I26_3_15	Reason respondent does not work: Old age
I26_4_15	Reason respondent does not work: Sick or temporarily di
I26_5_15	Reason respondent does not work: Unable to work for res
I26_6_15	Reason respondent does not work: Doesn't have customers
I26_7_15	Reason respondent does not work: Other
I3_15	Has respondent ever helped in a business, farm, or ranc

<b>Hours at Main Job</b>
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Wave	Variable	Label	Type
1	R1JHOURS	r1jhoursd: w1 R Hours/day worked at main job	Cont
1	S1JHOURS	s1jhoursd: w1 S Hours/day worked at main job	Cont
2	R2JHOURS	r2jhours: w2 R Hours/week worked at main job	Cont
3	R3JHOURS	r3jhours: w3 R Hours/week worked at main job	Cont
4	R4JHOURS	r4jhours: w4 R Hours/week worked at main job	Cont
2	S2JHOURS	s2jhours: w2 S Hours/week worked at main job	Cont
3	S3JHOURS	s3jhours: w3 S Hours/week worked at main job	Cont
4	S4JHOURS	s4jhours: w4 S Hours/week worked at main job	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1JHOURS	6590	8.13	2.98	1.00	24.00
S1JHOURS	4990	8.30	2.96	1.00	24.00
R2JHOURS	5782	44.03	20.29	1.00	99.00
R3JHOURS	11948	20.92	26.45	0.00	168.00
R4JHOURS	12790	18.33	25.05	0.00	168.00
S2JHOURS	4405	45.32	19.96	1.00	99.00
S3JHOURS	4180	45.27	20.78	0.00	168.00
S4JHOURS	4234	41.21	22.25	0.00	168.00

### How Constructed

RwJHOURS is the number of hours per day the respondent works in a normal day, and it ranges from 0 to 24. RwJHOURS was only determined for Wave 1 using the following question: 'About how many hours do you work in a usual day?'. Respondents were not asked to provide the number of hours per day they worked each day in a normal week, but only to indicate a number of hours in one normal day as an average.

RwJHOURS is set to .w, if the respondent is currently not working (that is if RwWORK is 0). RwJHOURS is also assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

While in Wave 1 it was only possible to determine the number of hours in a normal day, after Wave 2, the question was changed indicating the number of hours per day, in a normal week, for each day of the week. Therefore, a second variable RwJHOURS was created to indicate the number of hours per week the respondents work.

RwJHOURS indicates the number of hours per week the respondent works in a normal week, at his/her main job, and it has possible values from 0 to 168. After Wave 2, Respondents were asked 'Normally, which days and how many hours do you spend at your primary job?'. Respondents are then asked to give a number of hours for each day of week. RwJHOURS is the sum of the number of hours for each day of the week the respondent reported normally working.

RwJHOURS is set to .w, if the respondent is currently not working (that is if RwWORK is 0). RwJHOURS is also assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwJHOURS and SwJHOURS are taken from the Wave 'w' spouse's value for RwJHOURS and RwJHOURS. In addition to the special missing codes used in RwJHOURS and RwJHOURS, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the



respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In Wave 1, respondents were only asked to indicate a number of hours in one normal day (as an average). After Wave 2, the question was changed and respondents were asked to indicate the number of hours per day, in a normal week, for each day of the week. Therefore, two different variables were created, RwjHOURS and RwjHOURS, to indicate the number of hours per day or per week (respectively) the respondents work.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, hours worked per week was collocated at all waves. Unlike the HRS, in the MHAS hours worked per week was only collected since wave 2.

## MHAS Variables Used

### Wave 1:

I1	ever had a job
I2	job without payment
I5	worked previous week
I6	hours worked

### Wave 2:

I16	work status
I17	when work at primary job
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I17_1_12	Normally: hours worked primary job - Monday
I17_2_12	Normally: hours worked primary job - Tuesday
I17_3_12	Normally: hours worked primary job - Wednesday
I17_4_12	Normally: hours worked primary job - Thursday
I17_5_12	Normally: hours worked primary job - Friday
I17_6_12	Normally: hours worked primary job - Saturday
I17_7_12	Normally: hours worked primary job - Sunday
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I17_1_15	Regularly, number of hours worked at primary job - Mond
I17_2_15	Regularly, number of hours worked at primary job - Tues
I17_3_15	Regularly, number of hours worked at primary job - Wedn
I17_4_15	Regularly, number of hours worked at primary job - Thur
I17_5_15	Regularly, number of hours worked at primary job - Frid
I17_6_15	Regularly, number of hours worked at primary job - Satu
I17_7_15	Regularly, number of hours worked at primary job - Sund
I3_15	Has respondent ever helped in a business, farm, or ranc

<b>Main Activity Years of Tenure</b>
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Wave	Variable	Label	Type
1	R1JCTEN	r1jcten: w1 R Current job tenure	Cont
2	R2JCTEN	r2jcten: w2 R Current job tenure	Cont
3	R3JCTEN	r3jcten: w3 R Current job tenure	Cont
4	R4JCTEN	r4jcten: w4 R Current job tenure	Cont
1	S1JCTEN	s1jcten: w1 S Current job tenure	Cont
2	S2JCTEN	s2jcten: w2 S Current job tenure	Cont
3	S3JCTEN	s3jcten: w3 S Current job tenure	Cont
4	S4JCTEN	s4jcten: w4 S Current job tenure	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1JCTEN	6565	25.94	14.69	0.00	85.00
R2JCTEN	5712	24.56	17.14	1.00	80.00
R3JCTEN	5609	25.18	16.81	1.00	87.00
R4JCTEN	5505	24.55	18.04	1.00	85.00
S1JCTEN	4969	25.85	14.37	0.00	85.00
S2JCTEN	4353	24.72	17.03	1.00	77.00
S3JCTEN	4152	25.63	16.71	1.00	85.00
S4JCTEN	3982	25.27	18.13	1.00	82.00

### How Constructed

RwJCTEN is the respondent's number of years of tenure on the current job.

RwJCTEN is set to .w, if the respondent is currently not working (that is if RwWORK is 0). RwJHOURS is also assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwJCTEN is taken from the Wave 'w' spouse's value for RwJCTEN. In addition to the special missing codes used in RwJCTEN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2. Despite the differences across waves, the changes in the questions and dynamics of the section did not affect the outcome of RwJCTEN.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

Wave	Variable	Label
1	I1	ever had a job
1	I13	years in main job

I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I24	number of years at current primary job
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I24_12	Number of years has worked on this type of activities/j
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I10_15	Number of years respondent has worked doing these type
I16_15	Current labor force status
I19_15	Current occupation: Are activities at respondent's cure
I24_15	Number of years respondent has worked doing these type
I3_15	Has respondent ever helped in a business, farm, or ranc

### Job Allows Move to Less Demanding Work

Wave	Variable	Label	Type
2	R2JREDHR	r2jredhr: w2 R Job allows move to less demanding work	Categ
3	R3JREDHR	r3jredhr: w3 R Job allows move to less demanding work	Categ
4	R4JREDHR	r4jredhr: w4 R Job allows move to less demanding work	Categ
2	S2JREDHR	s2jredhr: w2 S Job allows move to less demanding work	Categ
3	S3JREDHR	s3jredhr: w3 S Job allows move to less demanding work	Categ
4	S4JREDHR	s4jredhr: w4 S Job allows move to less demanding work	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2JREDHR	5264	0.54	0.50	0.00	1.00
R3JREDHR	5354	0.46	0.50	0.00	1.00
R4JREDHR	5392	0.47	0.50	0.00	1.00
S2JREDHR	3965	0.53	0.50	0.00	1.00
S3JREDHR	3937	0.45	0.50	0.00	1.00
S4JREDHR	3897	0.47	0.50	0.00	1.00

### Categorical Variable Codes

Value	R2JREDHR	R3JREDHR	R4JREDHR
.d:DK	36	11	55
.m:Missing	26		40
.p:Proxy interview, not asked	1178	1275	929
.r:Refuse	21	9	8
.x:Not working/never worked	7179	9074	8355
0.No	2424	2901	2833
1.Yes	2840	2453	2559

Value	S2JREDHR	S3JREDHR	S4JREDHR
.d:DK	27	6	47
.m:Missing	6		10
.p:Proxy interview, not asked	821	726	470
.r:Refuse	14	6	5
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
.x:Not working/never worked	4731	5917	5223
0.No	1872	2167	2075
1.Yes	2093	1770	1822

### How Constructed

RwJREDHR indicates if the respondent could reduce the number of hours at work if wanted, even if the salary would be reduced as well, and is set to 0.No or 1.Yes. RwJREDHR is only available starting in Wave 2. RwJREDHR is set to .x, if the respondent is currently not working (that is if RwwORK is 0). RwJREDHR is also assigned special missing values .d or .r, if Don't know or Refused, respectively and it is also set to .p for proxy interviews. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwJREDHR is taken from the Wave 'w' spouse's value for RwJREDHR. In addition to the special missing codes used in RwJREDHR, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. Starting in Wave 2, the question regarding the possibility of reducing the number of hours was added to the 'Current Work' questions.

## Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS includes RwJGRREDHRA, which indicates the respondent's agreement that they would prefer to gradually reduce their hours. RwJREDHR indicates whether the respondent could reduce the number of hours of work if they wanted to. As such, these variables are not directly comparable and thus use different variable names.

## MHAS Variables Used

### Wave 2:

I16	work status
I18	possible to decrease work hours
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I18_12	If you wanted, could you decrease work hours
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I18_15	If respondent wanted to, could he/she decrease the numb
I3_15	Has respondent ever helped in a business, farm, or ranc

### Occupation Code for Job with Longest Reported Tenure

Wave	Variable	Label	Type
1	R1JLOCC_M	r1jlocc_m: w1 R Longest job occupation code	Categ
2	R2JLOCC_M	r2jlocc_m: w2 R Longest job occupation code	Categ
3	R3JLOCC_M	r3jlocc_m: w3 R Longest job occupation code	Categ
4	R4JLOCC_M	r4jlocc_m: w4 R Longest job occupation code	Categ
1	S1JLOCC_M	s1jlocc_m: w1 S Longest job occupation code	Categ
2	S2JLOCC_M	s2jlocc_m: w2 S Longest job occupation code	Categ
3	S3JLOCC_M	s3jlocc_m: w3 S Longest job occupation code	Categ
4	S4JLOCC_M	s4jlocc_m: w4 S Longest job occupation code	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1JLOCC_M	6667	9.62	4.60	1.00	19.00
R2JLOCC_M	1771	12.11	4.37	1.00	19.00
R3JLOCC_M	8460	10.49	4.81	1.00	18.00
R4JLOCC_M	5641	10.35	4.73	1.00	18.00
S1JLOCC_M	5051	9.31	4.48	1.00	19.00
S2JLOCC_M	1363	11.96	4.38	1.00	19.00
S3JLOCC_M	6165	10.15	4.73	1.00	18.00
S4JLOCC_M	4085	9.98	4.62	1.00	18.00

### Categorical Variable Codes

Value-----	R1JLOCC_M	R2JLOCC_M	R3JLOCC_M	R4JLOCC_M
.c: Job not classifiable			57	84
.d:DK	21	17	3	53
.m:Missing	42	30	1	42
.r:Refuse	29	6	6	6
.s:Skip		4066		2
.w:not working	8427	7814	7196	8951
1.Professionals	222	13	267	187
2.Technicians	186	25	204	126
3.Educators	235	22	362	187
4.Workers in Art, Shows, and Sports	49	10	43	30
5.Officials and Directors Public, Privat	154	52	163	126
6.Workers in Agriculture, Livestock, For	1410	146	1198	932
7.Bosses/Supervisors etc in Artistic, In	87	16	93	58
8.Artisans and Workers in Production, Re	1251	275	1535	1088
9.Operators of Fixed Machinery and Equip	169	29	213	67
10.Asst/Laborers etc in Ind. Production,	170	41	191	80
11.Drivers and Asst Drivers of Mobile Ma	339	63	385	268
12.Department Heads/Coordinators/Supervi	127	17	117	72
13.Administrative Support Staff	292	80	517	232
14.Merchants and Sales Representatives	831	375	904	732
15.Traveling Salespeople and Traveling S	207	135	473	412
16.Workers in the Service Industry	348	219	797	567
17.Domestic Workers	420	137	748	358
18.Safety and Security Personnel	135	92	250	119
19.Other Workers	35	24		

Value-----	S1JLOCC_M	S2JLOCC_M	S3JLOCC_M	S4JLOCC_M
.c: Job not classifiable			46	71
.d:DK	10	15	1	44
.m:Missing	14	8	1	11
.r:Refuse	23	5	3	4
.s:Skip		3093		2
.u:Unmar	4205	4009	4782	4847

.v:SP NR	333	131	349	280
.w:not working	5550	5080	4376	5435
1.Professionals	185	9	203	144
2.Technicians	136	23	145	81
3.Educators	180	14	269	136
4.Workers in Art, Shows, and Sports	39	5	33	24
5.Officials and Directors Public, Privat	125	42	130	94
6.Workers in Agriculture, Livestock, For	1141	125	963	775
7.Bosses/Supervisors etc in Artistic, In	76	15	75	47
8.Artisans and Workers in Production, Re	967	210	1175	810
9.Operators of Fixed Machinery and Equip	137	25	177	58
10.Asst/Laborers etc in Ind. Production,	134	34	148	63
11.Drivers and Asst Drivers of Mobile Ma	298	59	336	231
12.Department Heads/Coordinators/Supervi	96	14	86	57
13.Administrative Support Staff	209	66	346	158
14.Merchants and Sales Representatives	604	279	625	499
15.Traveling Salespeople and Traveling S	136	94	317	280
16.Workers in the Service Industry	240	169	518	353
17.Domestic Workers	211	86	416	183
18.Safety and Security Personnel	112	73	203	92
19.Other Workers	25	21		

## How Constructed

RwJLOCC\_M is the occupation code for the primary job performed most of his/her life. RwJLOCC\_M was determined using the Mexican Classification of Occupations provided for the 2001 and 2003 data, and available at the MHAS website using the following links: [\(here\)](#) and [\(here\)](#).

RwJLOCC\_M is set to .w, if the respondent is currently not working (that is if RwWORK is 0). RwJLOCC\_M is also assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave. In Wave 2, RwJLOCC\_M is also set to special missing value .s to indicate that the 'Principal Occupation' questions are not available because they were skipped for follow-up interviews.

SwJLOCC\_M is taken from the Wave 'w' spouse's value for RwJLOCC\_M. In addition to the special missing codes used in RwJLOCC\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

RwJLOCC\_M was determined using the occupation codes provided in the MHAS raw variables and the occupations classification from the Mexican Classification of Occupations provided for the 2001 and 2003 data. Since, the codes included in the Mexican classification of occupations are particular to Mexico and considered different from the set of codes used to create the RAND HRS variable, RwJLOCC\_M was created as an MHAS specific variable.

## MHAS Variables Used

Wave 1:

I1	ever had a job
I2	job without payment
I5	worked previous week

I9 main job

Wave 2:

I19 current work roles similar to past roles

I20 principal functions in current primary job

I3 ever worked without pay

I6 principal functions at primary job

Wave 3:

I20\_12 current primary job classification of occupation (CMO)

I6\_12 over your life (in last 10 yrs) primary job classificat

Wave 4:

I16\_15 Current labor force status

I19\_15 Current occupation: Are activities at respondent's cure

I20\_15 Classification of occupation for respondent's current p

I3\_15 Has respondent ever helped in a business, farm, or ranc

I6\_15 Classification of occupation for respondent's primary j



<b>Year Last Job Ended</b>
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Wave	Variable	Label	Type
2	R2JLASTY	r2jlasty: w2 R Year last job ended	Cont
3	R3JLASTY	r3jlasty: w3 R Year last job ended	Cont
4	R4JLASTY	r4jlasty: w4 R Year last job ended	Cont
2	S2JLASTY	s2jlasty: w2 S Year last job ended	Cont
3	S3JLASTY	s3jlasty: w3 S Year last job ended	Cont
4	S4JLASTY	s4jlasty: w4 S Year last job ended	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2JLASTY	2353	1988.76	13.97	1917.00	2003.00
R3JLASTY	2430	1991.44	19.54	1907.00	2016.00
R4JLASTY	3699	1988.67	23.09	1922.00	2016.00
S2JLASTY	1515	1988.87	13.88	1917.00	2003.00
S3JLASTY	1657	1992.39	18.69	1907.00	2016.00
S4JLASTY	2254	1990.51	22.11	1932.00	2016.00

### How Constructed

RwJLASTY is the year when the respondent last worked. RwJLASTY is not available for Wave 1. In Wave 2, RwJLASTY is the year reported by the respondent. Starting in Wave 3, RwJLASTY is the year reported by the respondent or it is calculated using the reported number of years since last work and the year of the interview.

RwJLASTY is set to .s, if the respondent is currently working (that is if RwWORK is 1) and .n if the respondent has never worked. It is also set to .p for proxy interviews. RwJLASTY is also assigned special missing values .d, or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwLIFEIN\_M are taken from the Wave 'w' spouse's value for RwLIFEIN\_M. In addition to the special missing codes used in RwLIFEIN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

### Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are slightly different from the questions used to determine the RAND HRS variable. In the MHAS, the question regarding the year last job ended is only asked if the respondent reported he/she is not currently working and is skipped for proxy interviews, without regard to the working status reported in the previous interview (if any). However, in the HRS, in an interview where the respondent is not working he/she is asked when the previous interview job ended.

### MHAS Variables Used

Wave 2:  
I16 work status  
I27 ever worked without pay  
I29 when leave last job  
I3 ever worked without pay

Wave 3:  
A2A2\_3\_12 Correct year of birth  
AA2\_3\_12 Year of birth  
I16\_12 Current work status  
I27\_12 (Follow-up person) Ever worked without pay  
I29\_1\_12 In what year did you leave your last job  
I29\_2\_12 How many years ago did you leave your last job  
I3\_12 Have you ever/since last time we spoke, worked without

Wave 4:  
A2A2\_3\_15 Correct year of birth  
AA2\_3\_15 Year of birth  
I16\_15 Current labor force status  
I27\_15 (Only for follow-up interviews) Has respondent ever wor  
I29\_1\_15 Year the respondent left his/her last job  
I29\_2\_15 How many years ago did respondent leave his/her last jo  
I3\_15 Has respondent ever helped in a business, farm, or ranc

<b>Reason Job Ended</b>
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Wave	Variable	Label	Type
2	R2JRSLEFT	r2jrsleft: w2 R Reason last job ended	Categ
3	R3JRSLEFT	r3jrsleft: w3 R Reason last job ended	Categ
4	R4JRSLEFT	r4jrsleft: w4 R Reason last job ended	Categ
2	S2JRSLEFT	s2jrsleft: w2 S Reason last job ended	Categ
3	S3JRSLEFT	s3jrsleft: w3 S Reason last job ended	Categ
4	S4JRSLEFT	s4jrsleft: w4 S Reason last job ended	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2JRSLEFT	2433	4.15	2.21	1.00	8.00
R3JRSLEFT	2505	4.34	2.44	1.00	8.00
R4JRSLEFT	3748	4.16	2.45	1.00	8.00
S2JRSLEFT	1558	4.05	2.20	1.00	8.00
S3JRSLEFT	1707	4.30	2.45	1.00	8.00
S4JRSLEFT	2281	4.09	2.47	1.00	8.00

### Categorical Variable Codes

Value-----	R2JRSLEFT	R3JRSLEFT	R4JRSLEFT
.d:DK	6	3	44
.m:Missing	26		40
.n:never worked	4752	6566	4606
.p:Proxy interview, not asked	1178	1275	929
.r:Refuse	4	11	7
.w:working	5305	5363	5405
1.Retired	536	543	962
3.Laid off	259	393	430
4.Health reason	552	437	835
5.Family reason	705	548	727
8.Other	381	584	794

Value-----	S2JRSLEFT	S3JRSLEFT	S4JRSLEFT
.d:DK	4	1	39
.m:Missing	6		10
.n:never worked	3182	4208	2941
.p:Proxy interview, not asked	821	726	470
.r:Refuse	1	7	4
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
.w:working	3992	3943	3907
1.Retired	367	387	623
3.Laid off	177	273	255
4.Health reason	331	272	490
5.Family reason	459	382	439
8.Other	224	393	474

### How Constructed

RwJRSLEFT indicates the reason the respondent left last job and is only available starting in Wave 2. Starting in Wave 2, this question is asked to every respondent, from the follow-up and new sample, that is not working and has ever worked. RwJRSLEFT is set to 1. if the respondent retired, 2. if fired, 3. if laid off (including source of work closed, temporary work ended, or business moved), 4. for health reason or due to sickness, 5. for family reason or to care for children, 6. if got a new job, 7. if respondent quit, and 8. if any other reason (including made too little money, schedule was inconvenient, job was not related to studies or training). RwJRSLEFT is set to .w, if the respondent is currently working (that is

if `RwWORK` is 1) and `.n` if the respondent reported in the current wave that they have never worked. It is also set to `.p` for proxy interviews. `RwJRSLEFT` is also assigned special missing values `.d`, or `.r`, if Don't know or Refused, respectively. The variable is set to plain missing (`.`) for respondents who did not respond to the current wave.

`SwJRSLEFT` are taken from the Wave 'w' spouse's value for `RwJRSLEFT`. In addition to the special missing codes used in `RwJRSLEFT`, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of `.u` is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of `.v` is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. Starting in Wave 2, the 'Reason the Respondent left last job' questions were added for both follow-up and new sample interviews.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are slightly different from the questions used to determine the RAND HRS variable. In the MHAS, the question regarding the year last job ended is only asked if the respondent reported he/she is not currently working and is skipped for proxy interviews, without regard to the working status reported in the previous interview (if any). However, in the HRS, in an interview where the respondent is not working he/she is asked when the previous interview job ended.

## MHAS Variables Used

### Wave 2:

I16	work status
I27	ever worked without pay
I28	reason for leaving last job
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I27_12	(Follow-up person) Ever worked without pay
I28_01_12	Reason left last job - work closed/bankrupt
I28_02_12	Reason left last job - it was temporary
I28_03_12	Reason left last job - the business moved
I28_04_12	Reason left last job - made too little money
I28_05_12	Reason left last job - inconvenient work schedule
I28_06_12	Reason left last job - not related to training/studies
I28_07_12	Reason left last job - to care for children/family memb
I28_08_12	Reason left last job - due to sickness
I28_09_12	Reason left last job - retirement
I28_10_12	Reason left last job - other
I28_88_12	Reason left last job - RF
I28_99_12	Reason left last job - DK
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I27_15	(Only for follow-up interviews) Has respondent ever wor
I28_01_15	Reason respondent left his/her last job: Source of work
I28_02_15	Reason respondent left his/her last job: It was tempora
I28_03_15	Reason respondent left his/her last job: The business m
I28_04_15	Reason respondent left his/her last job: Made too littl
I28_05_15	Reason respondent left his/her last job: The work sched
I28_06_15	Reason respondent left his/her last job: It wasn't rela
I28_07_15	Reason respondent left his/her last job: To care for ch
I28_08_15	Reason respondent left his/her last job: Due to sicknes
I28_09_15	Reason respondent left his/her last job: Retirement
I28_10_15	Reason respondent left his/her last job: Other
I28_88_15	Reason respondent left his/her last job: RF
I28_99_15	Reason respondent left his/her last job: DK

I3\_15

Has respondent ever helped in a business, farm, or ranc

## **Section I: Retirement**

### Whether Retired: Retirement year, if says retired

Wave	Variable	Label	Type
2	R2RETYR	r2retyr: w2 R Whether retired: Retirement year	Cont
3	R3RETYR	r3retyr: w3 R Whether retired: Retirement year	Cont
4	R4RETYR	r4retyr: w4 R Whether retired: Retirement year	Cont
2	S2RETYR	s2retyr: w2 S Whether retired: Retirement year	Cont
3	S3RETYR	s3retyr: w3 S Whether retired: Retirement year	Cont
4	S4RETYR	s4retyr: w4 S Whether retired: Retirement year	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2RETYR	596	1993.20	7.58	1957.00	2003.00
R3RETYR	654	1998.40	15.56	1935.00	2012.00
R4RETYR	1245	2001.56	13.42	1941.00	2015.00
S2RETYR	406	1994.31	6.79	1957.00	2003.00
S3RETYR	452	1998.45	16.16	1935.00	2012.00
S4RETYR	773	2002.99	12.63	1941.00	2015.00

### How Constructed

RwRETYR is derived only for respondents who reported they are retired, and it is only available after Wave 2.

In Wave 2, it is directly taken from the year reported by the respondent. However, since Wave 3 the respondent was allowed to give the year of retirement or the number of years he/she has been retired. If the respondent reported number of years, RwRETYR was derived using the year of the interview and the reported number of years since retirement.

RwRETYR is assigned special missing values .d or .r, if Don't know or Refused, respectively. It is assigned .p for proxy interviews. RwRETYR is set to special missing value .n if the respondent reported he/she has never worked, is currently unemployed, or is currently working. In Wave 2, RwRETYR is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwRETYR is taken from the Wave 'w' spouse's value for RwRETYR. In addition to the special missing codes used in RwRETYR, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

The retirement questions are only included after Wave 2. In addition, starting at Wave 3 respondents are allowed to give either the year of retirement or the number of years since he/she retired.

### Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. MHAS does not considered any different retirement

statuses such as partial retirement. Also, MHAS does not ask any questions regarding the probability of retirement or expectations related to the respondents' future retirement.

## MHAS Variables Used

### Wave 2:

I16	work status
I26	main reason for not working
I28	reason for leaving last job
I29	when leave last job
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I26_2_12	Reason for not working - retired
I27_12	(Follow-up person) Ever worked without pay
I28_09_12	Reason left last job - retirement
I29_1_12	In what year did you leave your last job
I29_2_12	How many years ago did you leave your last job
I2_12	Have you ever/since last time we spoke, worked for pay
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I27_15	(Only for follow-up interviews) Has respondent ever wor
I28_09_15	Reason respondent left his/her last job: Retirement
I29_1_15	Year the respondent left his/her last job
I29_2_15	How many years ago did respondent leave his/her last jo
I2_15	Has respondent ever had a job for which he/she received
I3_15	Has respondent ever helped in a business, farm, or ranc



<b>Whether Retired: Retirement age, if says retired</b>
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Wave	Variable	Label	Type
2	R2RETAGE	r2retage: w2 R Whether retired: Retirement age	Cont
3	R3RETAGE	r3retage: w3 R Whether retired: Retirement age	Cont
4	R4RETAGE	r4retage: w4 R Whether retired: Retirement age	Cont
2	S2RETAGE	s2retage: w2 S Whether retired: Retirement age	Cont
3	S3RETAGE	s3retage: w3 S Whether retired: Retirement age	Cont
4	S4RETAGE	s4retage: w4 S Whether retired: Retirement age	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2RETAGE	595	58.57	9.31	21.00	89.00
R3RETAGE	654	51.72	15.49	0.00	82.00
R4RETAGE	1245	56.95	12.75	0.00	89.00
S2RETAGE	405	58.41	8.57	31.00	85.00
S3RETAGE	452	51.22	16.13	0.00	81.00
S4RETAGE	773	57.30	12.58	0.00	89.00

### How Constructed

RwRETAGE is derived only for respondents who reported they are retired, and it is only available after Wave 2.

In Wave 2, it is derived using the year of retirement reported by the respondent and the birth year (taken from RABYEAR). Since Wave 3 the respondent was allowed to give the year of retirement or the number of years he/she has been retired. If the respondent reported year of retirement, RwRETAGE is derived in the same way it was constructed in Wave 2, using the year of retirement reported by the respondent and the birth year (taken from RABYEAR). However, if the respondent reported number of years, RwRETAGE was derived using the age and the reported number of years since retirement.

RwRETAGE is assigned special missing values .d or .r, if Don't know or Refused, respectively. It is assigned .p for proxy interviews. RwRETAGE is set to special missing value .n if the respondent reported he/she has never worked, is currently unemployed, or is currently working. In Wave 2, RwRETAGE is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwRETAGE is taken from the Wave 'w' spouse's value for RwRETAGE. In addition to the special missing codes used in RwRETAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

The retirement questions are only included after Wave 2. In addition, starting at Wave 3 respondents are allowed to give either the year of retirement or the number of years since he/she retired.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. MHAS does not consider any different retirement statuses such as partial retirement. Also, MHAS does not ask any questions regarding the probability of retirement or expectations related to the respondents' future retirement.

## MHAS Variables Used

### Wave 2:

AA2_2	dob - month
AA2_3	dob - year
I16	work status
I26	main reason for not working
I28	reason for leaving last job
I29	when leave last job
I3	ever worked without pay

### Wave 3:

A2A2_2_12	Correct month of birth
A2A2_3_12	Correct year of birth
AA2_2_12	Month of birth
AA2_3_12	Year of birth
I16_12	Current work status
I26_2_12	Reason for not working - retired
I27_12	(Follow-up person) Ever worked without pay
I28_09_12	Reason left last job - retirement
I29_1_12	In what year did you leave your last job
I29_2_12	How many years ago did you leave your last job
I2_12	Have you ever/since last time we spoke, worked for pay
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

A2A2_2_15	Correct month of birth
A2A2_3_15	Correct year of birth
AA2_2_15	Month of birth
AA2_3_15	Year of birth
I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I27_15	(Only for follow-up interviews) Has respondent ever wor
I28_09_15	Reason respondent left his/her last job: Retirement
I29_1_15	Year the respondent left his/her last job
I29_2_15	How many years ago did respondent leave his/her last jo
I2_15	Has respondent ever had a job for which he/she received
I3_15	Has respondent ever helped in a business, farm, or ranc

## **Section J: Pension**

## Whether Receives Public Pension

Wave	Variable	Label	Type
1	R1PUBPEN	r1pubpen: w1 R Whether receives public pension	Categ
2	R2PUBPEN	r2pubpen: w2 R Whether receives public pension	Categ
3	R3PUBPEN	r3pubpen: w3 R Whether receives public pension	Categ
4	R4PUBPEN	r4pubpen: w4 R Whether receives public pension	Categ
1	S1PUBPEN	s1pubpen: w1 S Whether receives public pension	Categ
2	S2PUBPEN	s2pubpen: w2 S Whether receives public pension	Categ
3	S3PUBPEN	s3pubpen: w3 S Whether receives public pension	Categ
4	S4PUBPEN	s4pubpen: w4 S Whether receives public pension	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PUBPEN	15321	0.13	0.33	0.00	1.00
R2PUBPEN	13665	0.16	0.36	0.00	1.00
R3PUBPEN	15691	0.19	0.39	0.00	1.00
R4PUBPEN	14718	0.22	0.42	0.00	1.00
S1PUBPEN	10833	0.10	0.30	0.00	1.00
S2PUBPEN	9551	0.12	0.33	0.00	1.00
S3PUBPEN	10581	0.15	0.36	0.00	1.00
S4PUBPEN	9643	0.18	0.39	0.00	1.00

### Categorical Variable Codes

Value-----	R1PUBPEN	R2PUBPEN	R3PUBPEN	R4PUBPEN
.d:DK	2	5	18	17
.m:Missing	59	31	2	34
.r:Refuse	3	3	12	10
0.No	13350	11544	12781	11429
1.Yes	1971	2121	2910	3289

Value-----	S1PUBPEN	S2PUBPEN	S3PUBPEN	S4PUBPEN
.d:DK	1	3	3	2
.m:Missing	16	8	2	4
.r:Refuse	2	2	6	3
.u:Unmar	4051	4009	4782	4847
.v:SP NR	283	131	349	280
0.No	9759	8362	8987	7862
1.Yes	1074	1189	1594	1781

### How Constructed

RwPUBPEN indicates whether the respondent is currently receiving any public pension, from retirement or widowhood. Public pension refers only to retirement and it includes pensions from IMSS, ISSSTE, or other public institution (PEMEX, DEFENSE, NAVY, CFE, BANXICO). Other pensions such as Disability or Work Accident, or Other Pensions are included in the MHAS but not in the construction of RwPUBPEN.

A value 0 indicates the respondent is not receiving any public pension. A value of 1 indicates the respondent is receiving at least one public pension. RwPUBPEN is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwPUBPEN is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPUBPEN indicates whether the current wave's spouse is receiving any public pension, and is taken from the spouse's values of RwPUBPEN. In addition to the special missing codes used in RwPUBPEN, if the

respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income questions in the MHAS, from Section K (Pension, Income and Assets), changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

## Differences with the RAND HRS/Harmonized HRS

RwPUBPEN in the MHAS is comparable to RASSRECV in the RAND HRS. While RwPUBPEN indicates whether the MHAS respondent is receiving any public pension at each wave, RASSRECV indicates whether the respondent to HRS received social security income at any wave. Components included in Harmonized MHAS and RAND HRS are slightly different for public pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible. In the MHAS, any public pension includes pensions from IMSS, ISSSTE, or other public institution (PEMEX, DEFENSE, NAVY, CFE, BANXICO).

## MHAS Variables Used

### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

### Wave 3:

K58A_12	Last year: Respondent retirement income pension
K59_1_01_12	Respondent's retirement pension source_IMSS
K59_1_02_12	Respondent's retirement pension source_ISSSTE
K59_1_03_12	Respondent's retirement pension source_Other Public Sec
K64C_12	Last year: Respondent's spouse received retirement pen
K65_1_01_12	Spouse's retirement pension source_IMSS
K65_1_02_12	Spouse's retirement pension source_ISSSTE
K65_1_03_12	Spouse's retirement pension source_Other Public Service

### Wave 4:

K58A_15	Last year: Did respondent receive pension income from r
K59_1_01_15	Respondent's retirement pension source: IMSS
K59_1_02_15	Respondent's retirement pension source: ISSSTE
K59_1_03_15	Respondent's retirement pension source: Other Public
K59_2_01_15	Respondent's widowhood pension source: IMSS
K59_2_02_15	Respondent's widowhood pension source: ISSSTE
K59_2_03_15	Respondent's widowhood pension source: Other Public
K64C_15	Last year: Did respondent's spouse receive retirement p
K65_1_01_15	Spouse's retirement pension source: IMSS
K65_1_02_15	Spouse's retirement pension source: ISSSTE
K65_1_03_15	Spouse's retirement pension source: Other Public
K65_2_01_15	Spouse's widowhood pension income source: IMSS

K65\_2\_02\_15 Spouse's widowhood pension income source: ISSSTE  
K65\_2\_03\_15 Spouse's widowhood pension income source: Other Public

### Whether Receives Private Pension

Wave	Variable	Label	Type
1	R1PENINC	r1peninc: w1 R Whether receives private pension	Categ
2	R2PENINC	r2peninc: w2 R Whether receives private pension	Categ
3	R3PENINC	r3peninc: w3 R Whether receives private pension	Categ
4	R4PENINC	r4peninc: w4 R Whether receives private pension	Categ
1	S1PENINC	s1peninc: w1 S Whether receives private pension	Categ
2	S2PENINC	s2peninc: w2 S Whether receives private pension	Categ
3	S3PENINC	s3peninc: w3 S Whether receives private pension	Categ
4	S4PENINC	s4peninc: w4 S Whether receives private pension	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PENINC	15321	0.00	0.04	0.00	1.00
R2PENINC	13665	0.00	0.04	0.00	1.00
R3PENINC	15691	0.00	0.04	0.00	1.00
R4PENINC	14718	0.00	0.04	0.00	1.00
S1PENINC	10833	0.00	0.04	0.00	1.00
S2PENINC	9551	0.00	0.04	0.00	1.00
S3PENINC	10581	0.00	0.03	0.00	1.00
S4PENINC	9643	0.00	0.02	0.00	1.00

### Categorical Variable Codes

Value-----	R1PENINC	R2PENINC	R3PENINC	R4PENINC
.d:DK	2	5	18	17
.m:Missing	59	31	2	34
.r:Refuse	3	3	12	10
0.No	15294	13646	15669	14699
1.Yes	27	19	22	19

Value-----	S1PENINC	S2PENINC	S3PENINC	S4PENINC
.d:DK	1	3	3	2
.m:Missing	16	8	2	4
.r:Refuse	2	2	6	3
.u:Unmar	4051	4009	4782	4847
.v:SP NR	283	131	349	280
0.No	10819	9538	10572	9637
1.Yes	14	13	9	6

### How Constructed

RwPENINC indicates whether the respondent is currently receiving a private pension, from retirement or widowhood. Other pensions such as Disability or Work Accident, or Other Pensions are included in the MHAS but not in the construction of RwPENINC.

A value of 0 indicates that the respondent is not currently receiving any private pension. A value of 1 indicates that the respondent is currently receiving a private pension. RwPENINC is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwPENINC is also assigned the special missing value .m if the section was not completed.

SwPENINC indicates whether the current wave's spouse is receiving a private pension, and is taken from the spouse's values of RwPENINC. In addition to the special missing codes used in RwPENINC, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing

value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

### Cross Wave Differences in MHAS

The pension income questions in the MHAS, from Section K (Pension, Income and Assets), changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

### Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

### MHAS Variables Used

#### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse

#### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

#### Wave 3:

K58A_12	Last year: Respondent retirement income pension
K59_1_04_12	Respondent's retirement pension source_Private
K64C_12	Last year: Respondent's spouse received retirement pen
K65_1_04_12	Spouse's retirement pension source_Private

#### Wave 4:

K58A_15	Last year: Did respondent receive pension income from r
K59_1_04_15	Respondent's retirement pension source: Private
K59_2_04_15	Respondent's widowhood pension source: Private
K64C_15	Last year: Did respondent's spouse receive retirement p
K65_1_04_15	Spouse's retirement pension source: Private
K65_2_04_15	Spouse's widowhood pension income source: Private



### Whether Receives Other Pension

Wave	Variable	Label	Type
1	R1OPEN	rlopen: w1 R Whether receives any other pension	Categ
2	R2OPEN	r2open: w2 R Whether receives any other pension	Categ
3	R3OPEN	r3open: w3 R Whether receives any other pension	Categ
4	R4OPEN	r4open: w4 R Whether receives any other pension	Categ
1	S1OPEN	slopen: w1 S Whether receives any other pension	Categ
2	S2OPEN	s2open: w2 S Whether receives any other pension	Categ
3	S3OPEN	s3open: w3 S Whether receives any other pension	Categ
4	S4OPEN	s4open: w4 S Whether receives any other pension	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OPEN	15321	0.01	0.09	0.00	1.00
R2OPEN	13665	0.01	0.10	0.00	1.00
R3OPEN	15691	0.01	0.10	0.00	1.00
R4OPEN	14718	0.01	0.11	0.00	1.00
S1OPEN	10833	0.01	0.09	0.00	1.00
S2OPEN	9551	0.01	0.10	0.00	1.00
S3OPEN	10581	0.01	0.09	0.00	1.00
S4OPEN	9643	0.01	0.10	0.00	1.00

### Categorical Variable Codes

Value-----	R1OPEN	R2OPEN	R3OPEN	R4OPEN
.d:DK	2	5	18	17
.m:Missing	59	31	2	34
.r:Refuse	3	3	12	10
0.No	15183	13519	15517	14548
1.Yes	138	146	174	170

Value-----	S1OPEN	S2OPEN	S3OPEN	S4OPEN
.d:DK	1	3	3	2
.m:Missing	16	8	2	4
.r:Refuse	2	2	6	3
.u:Unmar	4051	4009	4782	4847
.v:SP NR	283	131	349	280
0.No	10754	9463	10486	9546
1.Yes	79	88	95	97

### How Constructed

RwOPEN indicates whether the respondent is currently receiving any retirement or widowhood pension not already included in public and private pensions (RwPUBPEN and RwPENINC). RwOPEN considers pensions from the US Social Security, other institutions (different from the ones included in RwPUBPEN and RwPENINC), and a pension from an individual. Other pensions such as Disability or Work Accident, or Other Pensions are included in the MHAS but not in the construction of RwOPEN.

A value 0 indicates the respondent is not receiving any other pension. A value of 1 indicates the respondent is receiving at least one other pension. RwOPEN is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwOPEN is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwOPEN indicates whether the current wave's spouse is receiving any other pension, and is taken from the spouse's values of RwOPEN. In addition to the special missing codes used in RwOPEN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income questions in the MHAS, from Section K (Pension, Income and Assets), changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different representing different institutional arrangements in each country. In the MHAS, RwOPEN was created to supplement the information in RwPUBPEN and RwPENINC. In particular, to include other institutional arrangements such as the US Social Security, other institutions (different from the ones included in RwPUBPEN and RwPENINC), and a pension from an individual.

## MHAS Variables Used

### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

### Wave 3:

K58A_12	Last year: Respondent retirement income pension
K59_1_05_12	Respondent's retirement pension source_US Social Security
K59_1_06_12	Respondent's retirement pension source_Other Institution
K59_1_07_12	Respondent's retirement pension source_A Person
K64C_12	Last year: Respondent's spouse received retirement pension
K65_1_05_12	Spouse's retirement pension source_US Social Security
K65_1_06_12	Spouse's retirement pension source_Other Institution
K65_1_07_12	Spouse's retirement pension source_A Person

### Wave 4:

K58A_15	Last year: Did respondent receive pension income from r
K59_1_05_15	Respondent's retirement pension source: US Social Security
K59_1_06_15	Respondent's retirement pension source: Other Institution
K59_1_07_15	Respondent's retirement pension source: A Person
K59_2_05_15	Respondent's widowhood pension source: US Social Security
K59_2_06_15	Respondent's widowhood pension source: Other Institution
K59_2_07_15	Respondent's widowhood pension source: A Person
K64C_15	Last year: Did respondent's spouse receive retirement p
K65_1_05_15	Spouse's retirement pension source: US Social Security
K65_1_06_15	Spouse's retirement pension source: Other Institution
K65_1_07_15	Spouse's retirement pension source: A Person

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K65_2_05_15	Spouse's widowhood pension income source: US Social Sec
K65_2_06_15	Spouse's widowhood pension income source: Other Institu
K65_2_07_15	Spouse's widowhood pension income source: A Person

## Age When Started to Receive a Public Pension

Wave	Variable	Label	Type
1	R1PUBAGE	r1pubage: w1 R Age when started to receive public pension	Cont
2	R2PUBAGE	r2pubage: w2 R Age when started to receive public pension	Cont
1	S1PUBAGE	s1pubage: w1 S Age when started to receive public pension	Cont
2	S2PUBAGE	s2pubage: w2 S Age when started to receive public pension	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PUBAGE	1866	58.42	9.76	9.00	89.00
R2PUBAGE	1979	58.19	9.41	8.00	93.00
S1PUBAGE	1023	58.27	8.65	9.00	87.00
S2PUBAGE	1120	58.06	8.49	8.00	83.00

### How Constructed

RwPUBAGE indicates the age when the respondent started receiving a public pension, from retirement or widowhood. RwPUBAGE was derived using the year the respondent reported he/she started to receive a pension and the respondent's birth year or age, if he/she currently receives a public pension.

RwPUBAGE is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwPUBAGE is also assigned special missing values .n if the respondent is currently not receiving a public pension and .i if the year reported is beyond each wave (i.e. higher than 2001 in wave 1). It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPUBAGE indicates the current wave's spouse age when he/she started receiving a public pension, and is taken from the spouse's values of RwPUBAGE. In addition to the special missing codes used in RwPUBAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

### Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

In Waves 1 to 3, the financial respondent could only give information about the year he/she started receiving the pension, the income received, and whether the spouse (if married) could continue after the death of the respondent for one pension. Since at Waves 3 and 4 respondents can report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the reported years belong to a public, private, or other pension, RwPUBAGE was not created in those Waves. Starting in Wave 5, since respondents were able to report up to two pensions and it was possible to correctly identify the year for each type of pension, RwPUBAGE was constructed again.

## Differences with the RAND HRS/Harmonized HRS

Components included in RWPUBAGE in the Harmonized MHAS and RvSSAGEB in the RAND HRS are slightly different for public pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

### MHAS Variables Used

#### Wave 1:

K56_1	source of retirement pension
K56_2	source of widowhood pension
K57_1	start of retirement pension
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K63_1	start of retirement pension of spouse

#### Wave 2:

K59A	source of retirement pension
K59B	source of widowhood pension
K60A	start of retirement pension
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K66C	start of retirement pension of spouse

## Age When Started to Receive a Private Pension

Wave	Variable	Label	Type
1	R1PENAGE	r1penage: w1 R Age when started to receive private pension	Cont
2	R2PENAGE	r2penage: w2 R Age when started to receive private pension	Cont
1	S1PENAGE	s1penage: w1 S Age when started to receive private pension	Cont
2	S2PENAGE	s2penage: w2 S Age when started to receive private pension	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PENAGE	26	54.12	8.89	31.00	70.00
R2PENAGE	17	58.41	10.90	37.00	82.00
S1PENAGE	14	53.36	8.50	31.00	68.00
S2PENAGE	12	59.67	12.39	37.00	82.00

### How Constructed

RwPENAGE indicates the age when the respondent started receiving a private pension, from retirement or widowhood. RwPENAGE was derived using the year the respondent reported he/she started to receive a pension and the respondent's birth year or age, if he/she currently receives a private pension.

RwPENAGE is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwPENAGE is also assigned special missing values .n if the respondent is currently not receiving a private pension and .i if the year reported is beyond each wave (i.e. higher than 2001 in wave 1). It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPENAGE indicates the current wave's spouse age when he/she started receiving a private pension, and is taken from the spouse's values of RwPENAGE. In addition to the special missing codes used in RwPENAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

### Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

In Waves 1 to 3, the financial respondent could only give information about the year he/she started receiving the pension, the income received, and whether the spouse (if married) could continue after the death of the respondent for one pension. Since at Waves 3 and 4 respondents can report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the reported years belong to a public, private, or other pension, RwPENAGE was not create in Waves 3 and 4. Starting in Wave 5, since respondents were able to report up to two pensions and it was possible to correctly identify the year for each type of pension, RwPENAGE was constructed again.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

### MHAS Variables Used

#### Wave 1:

K56_1	source of retirement pension
K56_2	source of widowhood pension
K57_1	start of retirement pension
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K63_1	start of retirement pension of spouse

#### Wave 2:

K59A	source of retirement pension
K59B	source of widowhood pension
K60A	start of retirement pension
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K66C	start of retirement pension of spouse

## Whether Current Public Pension(s) Can Continue

Wave	Variable	Label	Type
1	R1SSIC	r1ssic: w1 R Whether current public pension can continue	Categ
2	R2SSIC	r2ssic: w2 R Whether current public pension can continue	Categ
1	S1SSIC	s1ssic: w1 S Whether current public pension can continue	Categ
2	S2SSIC	s2ssic: w2 S Whether current public pension can continue	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SSIC	10620	0.07	0.26	0.00	1.00
R2SSIC	9484	0.10	0.30	0.00	1.00
S1SSIC	10625	0.07	0.26	0.00	1.00
S2SSIC	9484	0.10	0.30	0.00	1.00

### Categorical Variable Codes

Value	R1SSIC	R2SSIC
.d:DK	112	68
.m:Missing	16	8
.n:not married	4538	4140
.r:Refuse	83	4
0.No	9856	8512
1.Yes	764	972

Value	S1SSIC	S2SSIC
.d:DK	112	68
.m:Missing	16	8
.r:Refuse	83	4
.u:Unmar	4065	4009
.v:SP NR	285	131
0.No	9861	8512
1.Yes	764	972

### How Constructed

RwSSIC indicates whether the respondent's spouse could receive part of the respondent's current public pension(s), from retirement or widowhood, if he/she were to die. RwSSIC is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwSSIC is also assigned special missing value .n if the respondent is currently not married. It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwSSIC indicates the current wave's spouse public pension(s) can continue if he/she were to die, and is taken from the spouse's values of RwSSIC. In addition to the special missing codes used in RwSSIC, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.



## Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

In Waves 1 to 3, the financial respondent could only give information regarding the year he/she started receiving the pension, the income received, and whether the spouse (if married) could continue after the death of the respondent for one pension. Starting Wave 3 respondents can report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the variables belong to a public, private, or other pension. It was not possible to create RwSSIC in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

## MHAS Variables Used

### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K60_1	retirement pension goes to spouse
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse
K66_1	would you receive spouse's retirement pension if he/she

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

## Whether Current Private Pension Can Continue

Wave	Variable	Label	Type
1	R1PENIC	r1penic: w1 R Whether current private pension can continue	Categ
2	R2PENIC	r2penic: w2 R Whether current private pension can continue	Categ
1	S1PENIC	s1penic: w1 S Whether current private pension can continue	Categ
2	S2PENIC	s2penic: w2 S Whether current private pension can continue	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PENIC	10826	0.00	0.03	0.00	1.00
R2PENIC	9551	0.00	0.03	0.00	1.00
S1PENIC	10831	0.00	0.03	0.00	1.00
S2PENIC	9551	0.00	0.03	0.00	1.00

### Categorical Variable Codes

Value	R1PENIC	R2PENIC
.d:DK	2	3
.m:Missing	16	8
.n:not married	4538	4140
.r:Refuse	3	2
0.No	10815	9541
1.Yes	11	10

Value	S1PENIC	S2PENIC
.d:DK	2	3
.m:Missing	16	8
.r:Refuse	3	2
.u:Unmar	4051	4009
.v:SP NR	283	131
0.No	10820	9541
1.Yes	11	10

### How Constructed

RwPENIC indicates whether the respondent's spouse could receive part of the respondent's current private pension, from retirement or widowhood, if he/she were to die. RwPENIC is assigned special missing values .d or .r, if Don't know or Refused, respectively. RwPENIC is also assigned special missing value .n if the respondent is currently not married. It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPENIC indicates the current wave's spouse's private pension can continue if he/she were to die, and is taken from the spouse's values of RwPENIC. In addition to the special missing codes used in RwPENIC, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

In Waves 1 to 3, the financial respondent could only give information regarding the year he/she started receiving the pension, the income received, and whether the spouse (if married) could continue after the death of the respondent for one pension. Starting Wave 3 respondents can report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the variables belong to a public, private, or other pension. It was not possible to create RWPENIC in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

## MHAS Variables Used

### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K60_1	retirement pension goes to spouse
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse
K66_1	would you receive spouse's retirement pension if he/she

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

## **Section K: Physical Measures**

### Height, Weight, Waist and Hip Circumference Measurements

Wave	Variable	Label	Type
1	R1MHEIGHT	r1mheight: w1 R Measured Height in meters	Cont
2	R2MHEIGHT	r2mheight: w2 R Measured Height in meters	Cont
3	R3MHEIGHT	r3mheight: w3 R Measured Height in meters	Cont
1	S1MHEIGHT	s1mheight: w1 S Measured Height in meters	Cont
2	S2MHEIGHT	s2mheight: w2 S Measured Height in meters	Cont
3	S3MHEIGHT	s3mheight: w3 S Measured Height in meters	Cont
1	R1HTCOMP	r1htcomp: w1 R willing & able to complete height measurement	Categ
2	R2HTCOMP	r2htcomp: w2 R willing & able to complete height measurement	Categ
3	R3HTCOMP	r3htcomp: w3 R willing & able to complete height measurement	Categ
1	S1HTCOMP	s1htcomp: w1 S willing & able to complete height measurement	Categ
2	S2HTCOMP	s2htcomp: w2 S willing & able to complete height measurement	Categ
3	S3HTCOMP	s3htcomp: w3 S willing & able to complete height measurement	Categ
1	R1MWEIGHT	r1mweight: w1 R Measured Weight in kilograms	Cont
2	R2MWEIGHT	r2mweight: w2 R Measured Weight in kilograms	Cont
3	R3MWEIGHT	r3mweight: w3 R Measured Weight in kilograms	Cont
1	S1MWEIGHT	s1mweight: w1 S Measured Weight in kilograms	Cont
2	S2MWEIGHT	s2mweight: w2 S Measured Weight in kilograms	Cont
3	S3MWEIGHT	s3mweight: w3 S Measured Weight in kilograms	Cont
1	R1WTCOMP	r1wtcomp: w1 R willing & able to complete weight measurement	Categ
2	R2WTCOMP	r2wtcomp: w2 R willing & able to complete weight measurement	Categ
3	R3WTCOMP	r3wtcomp: w3 R willing & able to complete weight measurement	Categ
1	S1WTCOMP	s1wtcomp: w1 S willing & able to complete weight measurement	Categ
2	S2WTCOMP	s2wtcomp: w2 S willing & able to complete weight measurement	Categ
3	S3WTCOMP	s3wtcomp: w3 S willing & able to complete weight measurement	Categ
1	R1MBMI	r1mbmi: w1 R Measured Body Mass Index=kg/m <sup>2</sup>	Cont
2	R2MBMI	r2mbmi: w2 R Measured Body Mass Index=kg/m <sup>2</sup>	Cont
3	R3MBMI	r3mbmi: w3 R Measured Body Mass Index=kg/m <sup>2</sup>	Cont
1	S1MBMI	s1mbmi: w1 S Measured Body Mass Index=kg/m <sup>2</sup>	Cont
2	S2MBMI	s2mbmi: w2 S Measured Body Mass Index=kg/m <sup>2</sup>	Cont
3	S3MBMI	s3mbmi: w3 S Measured Body Mass Index=kg/m <sup>2</sup>	Cont
1	R1MBMICAT	r1mbmicat: w1 R Measured Body Mass Index Categorization	Categ
2	R2MBMICAT	r2mbmicat: w2 R Measured Body Mass Index Categorization	Categ
3	R3MBMICAT	r3mbmicat: w3 R Measured Body Mass Index Categorization	Categ
1	S1MBMICAT	s1mbmicat: w1 S Measured Body Mass Index Categorization	Categ
2	S2MBMICAT	s2mbmicat: w2 S Measured Body Mass Index Categorization	Categ
3	S3MBMICAT	s3mbmicat: w3 S Measured Body Mass Index Categorization	Categ
1	R1MWAIST	r1mwaist: w1 R Measured Waist Circumference in cm	Cont
2	R2MWAIST	r2mwaist: w2 R Measured Waist Circumference in cm	Cont
3	R3MWAIST	r3mwaist: w3 R Measured Waist Circumference in cm	Cont
1	S1MWAIST	s1mwaist: w1 S Measured Waist Circumference in cm	Cont
2	S2MWAIST	s2mwaist: w2 S Measured Waist Circumference in cm	Cont
3	S3MWAIST	s3mwaist: w3 S Measured Waist Circumference in cm	Cont
1	R1WATCOMP	r1watcomp: w1 R willing & able to complete waist measurement	Categ

2	R2WATCOMP	r2watcomp: w2 R willing & able to complete waist measurement	Categ
3	R3WATCOMP	r3watcomp: w3 R willing & able to complete waist measurement	Categ
1	S1WATCOMP	s1watcomp: w1 S willing & able to complete waist measurement	Categ
2	S2WATCOMP	s2watcomp: w2 S willing & able to complete waist measurement	Categ
3	S3WATCOMP	s3watcomp: w3 S willing & able to complete waist measurement	Categ
1	R1MHIP	r1mhip: w1 R Measured Hip Circumference in cm	Cont
2	R2MHIP	r2mhip: w2 R Measured Hip Circumference in cm	Cont
3	R3MHIP	r3mhip: w3 R Measured Hip Circumference in cm	Cont
1	S1MHIP	s1mhip: w1 S Measured Hip Circumference in cm	Cont
2	S2MHIP	s2mhip: w2 S Measured Hip Circumference in cm	Cont
3	S3MHIP	s3mhip: w3 S Measured Hip Circumference in cm	Cont
1	R1HIPCOMP	r1hipcomp: w1 R willing & able to complete hip measurement	Categ
2	R2HIPCOMP	r2hipcomp: w2 R willing & able to complete hip measurement	Categ
3	R3HIPCOMP	r3hipcomp: w3 R willing & able to complete hip measurement	Categ
1	S1HIPCOMP	s1hipcomp: w1 S willing & able to complete hip measurement	Categ
2	S2HIPCOMP	s2hipcomp: w2 S willing & able to complete hip measurement	Categ
3	S3HIPCOMP	s3hipcomp: w3 S willing & able to complete hip measurement	Categ
1	R1MWHRATIO	r1mwhratio: w1 R Measured Waist to Hip Ratio	Cont
2	R2MWHRATIO	r2mwhratio: w2 R Measured Waist to Hip Ratio	Cont
3	R3MWHRATIO	r3mwhratio: w3 R Measured Waist to Hip Ratio	Cont
1	S1MWHRATIO	s1mwhratio: w1 S Measured Waist to Hip Ratio	Cont
2	S2MWHRATIO	s2mwhratio: w2 S Measured Waist to Hip Ratio	Cont
3	S3MWHRATIO	s3mwhratio: w3 S Measured Waist to Hip Ratio	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MHEIGHT	2537	1.57	0.10	0.98	2.00
R2MHEIGHT	2220	1.56	0.10	1.00	1.98
R3MHEIGHT	2049	1.55	0.10	1.28	1.90
S1MHEIGHT	1776	1.59	0.10	0.98	1.94
S2MHEIGHT	1550	1.58	0.10	1.00	1.98
S3MHEIGHT	1394	1.56	0.09	1.33	1.90
R1HTCOMP	2813	0.90	0.30	0.00	1.00
R2HTCOMP	2361	0.94	0.24	0.00	1.00
R3HTCOMP	2086	0.98	0.13	0.00	1.00
S1HTCOMP	1965	0.90	0.29	0.00	1.00
S2HTCOMP	1635	0.95	0.22	0.00	1.00
S3HTCOMP	1411	0.99	0.11	0.00	1.00
R1MWEIGHT	2537	68.68	14.15	24.00	150.00
R2MWEIGHT	2225	68.49	14.47	30.00	173.00
R3MWEIGHT	2057	69.65	14.98	32.35	150.00
S1MWEIGHT	1777	70.79	14.03	24.00	150.00
S2MWEIGHT	1557	70.43	14.34	35.00	173.00
S3MWEIGHT	1399	71.24	15.05	33.50	150.00
R1WTCOMP	2813	0.90	0.30	0.00	1.00
R2WTCOMP	2361	0.94	0.23	0.00	1.00
R3WTCOMP	2086	0.99	0.12	0.00	1.00

S1WTCOMP	1965	0.90	0.29	0.00	1.00
S2WTCOMP	1635	0.95	0.21	0.00	1.00
S3WTCOMP	1411	0.99	0.09	0.00	1.00
R1MBMI	2527	27.82	5.23	8.71	90.84
R2MBMI	2216	27.99	5.41	14.54	73.61
R3MBMI	2048	28.89	5.28	15.74	53.33
S1MBMI	1770	28.18	5.28	8.71	90.84
S2MBMI	1549	28.25	5.39	14.54	73.61
S3MBMI	1394	29.05	5.30	15.74	53.33
R1MBMICAT	2527	3.07	0.97	1.00	6.00
R2MBMICAT	2216	3.10	1.00	1.00	6.00
R3MBMICAT	2048	3.28	1.04	1.00	6.00
S1MBMICAT	1770	3.14	0.96	1.00	6.00
S2MBMICAT	1549	3.15	0.99	1.00	6.00
S3MBMICAT	1394	3.30	1.04	1.00	6.00
R1MWAIST	2531	97.44	12.96	40.00	194.00
R2MWAIST	2220	98.95	12.52	50.00	180.00
R3MWAIST	2053	98.08	12.53	48.10	165.60
S1MWAIST	1768	98.26	12.68	46.00	194.00
S2MWAIST	1550	99.54	12.30	51.00	180.00
S3MWAIST	1396	98.72	12.46	62.00	163.80
R1WATCOMP	2813	0.90	0.30	0.00	1.00
R2WATCOMP	2361	0.94	0.24	0.00	1.00
R3WATCOMP	2086	0.98	0.12	0.00	1.00
S1WATCOMP	1965	0.90	0.30	0.00	1.00
S2WATCOMP	1635	0.95	0.22	0.00	1.00
S3WATCOMP	1411	0.99	0.10	0.00	1.00
R1MHIP	2529	105.63	12.16	45.00	192.00
R2MHIP	2220	105.56	11.96	50.00	156.00
R3MHIP	2054	103.66	11.22	75.20	168.50
S1MHIP	1768	106.25	12.09	59.00	192.00
S2MHIP	1550	105.90	11.60	50.00	150.00
S3MHIP	1396	103.63	11.17	77.45	168.50
R1HIPCOMP	2813	0.90	0.30	0.00	1.00
R2HIPCOMP	2361	0.94	0.24	0.00	1.00
R3HIPCOMP	2086	0.98	0.12	0.00	1.00
S1HIPCOMP	1965	0.90	0.30	0.00	1.00
S2HIPCOMP	1635	0.95	0.22	0.00	1.00
S3HIPCOMP	1411	0.99	0.10	0.00	1.00
R1MWHRATIO	2527	0.92	0.09	0.40	1.96
R2MWHRATIO	2219	0.94	0.09	0.46	2.16
R3MWHRATIO	2053	0.95	0.08	0.55	1.68
S1MWHRATIO	1766	0.93	0.09	0.45	1.96
S2MWHRATIO	1549	0.94	0.09	0.46	2.16
S3MWHRATIO	1396	0.95	0.08	0.66	1.68

**Categorical Variable Codes**

Value-----	R1HTCOMP	R2HTCOMP	R3HTCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	276	141	37
1.yes	2537	2220	2049

Value-----	S1HTCOMP	S2HTCOMP	S3HTCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	189	85	17
1.yes	1776	1550	1394

Value-----	R1WTCOMP	R2WTCOMP	R3WTCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	276	136	29
1.yes	2537	2225	2057

Value-----	S1WTCOMP	S2WTCOMP	S3WTCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	188	78	12
1.yes	1777	1557	1399

Value-----	R1MBMICAT	R2MBMICAT	R3MBMICAT
.m:Missing	131		218
.n:not willing/able	134	34	37
.r:Refuse	141	97	
.s:Skip	12242	11343	13419
.x:tried but unable	11	14	1
1.Underweight (lt 18.5)	36	35	15
2.Normal (18.5-24.9)	707	593	468
3.Pre-obesity (25-29.9)	1062	936	806
4.Obesity class 1 (30-34.9)	523	467	510
5.obesity class 2 (35-39.9)	153	129	181
6.obesity class 3 (40+)	46	56	68

Value-----	S1MBMICAT	S2MBMICAT	S3MBMICAT
.m:Missing	95		141
.n:not willing/able	89	21	17
.r:Refuse	100	57	
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
.x:tried but unable	6	8	
1.Underweight (lt 18.5)	14	15	8
2.Normal (18.5-24.9)	452	395	310
3.Pre-obesity (25-29.9)	763	650	556
4.Obesity class 1 (30-34.9)	390	358	350
5.obesity class 2 (35-39.9)	115	86	121
6.obesity class 3 (40+)	36	45	49

Value-----	R1WATCOMP	R2WATCOMP	R3WATCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	282	141	33
1.yes	2531	2220	2053

Value-----	S1WATCOMP	S2WATCOMP	S3WATCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	197	85	15
1.yes	1768	1550	1396

Value-----	R1HIPCOMP	R2HIPCOMP	R3HIPCOMP
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.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	284	141	32
1.yes	2529	2220	2054
Value-----	S1HIPCOMP	S2HIPCOMP	S3HIPCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	197	85	15
1.yes	1768	1550	1396

## How Constructed

RwMHEIGHT and RwmWEIGHT are the respective measured height and weight variables, taken from a subsample of the MHAS. Height is given in meters and weight in kilograms. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the height or weight but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwHTCOMP and RwwTCOMP indicate whether the respondent is willing and able to complete the height and weight measures, respectively. RwHTCOMP and RwwTCOMP are coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwHTCOMP and RwwTCOMP are coded as 0 if they tried to measure the height or weight but couldn't do it, the respondent didn't try, couldn't stand up, the tests were not attempted for their safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwMHEIGHT, SwHTCOMP, SwMWEIGHT, and SwWTCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwmHEIGHT, RwHTCOMP, RwmWEIGHT, and RwwTCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwMHEIGHT, SwHTCOMP, SwMWEIGHT, and SwWTCOMP employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwMBMI is the respondent's body mass index and it is derived by dividing the respondent's measured weight (kg) by the squared value of their measured height, taken from a subsample of the MHAS. RwMBMICAT indicates the respondent's reported BMI category according to WHO standards. RwMBMICAT is coded as follows: 1.underweight, less than 18.5, 2.normal weight, 18.5 to 24.9, 3.pre-obesity, 25 to 25.9, 4.obesity class 1, 30 to 34.9, 5.obesity class 2, 35 to 39.9, 6.obesity class 3, greater than 40. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the height or weight but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwMBMI and SwMBMICAT are the measures of the respondent's spouse and are taken directly from the spouse's RwMBMI and RwMBMICAT, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwMBMI and SwMBMICAT employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwmWAIST and RwmHIP are the respective measured waist and hip circumference variables (in centimeters), taken from a subsample of the MHAS. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the height or weight but couldn't do it and a special missing value .n is used if they couldn't

stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwWATCOMP and RwHIPCOMP indicate whether the respondent is willing and able to complete the waist and hip circumference measurements, respectively. RwWATCOMP and RwHIPCOMP are coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwWATCOMP and RwHIPCOMP are coded as 0 if they tried to measure the waist and hip circumference but couldn't do it, the respondent didn't try, couldn't stand up, the tests were not attempted for their safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwMWHRATIO is the respondent's waist to hip ratio, taken from a subsample of the MHAS. It is calculated by dividing the respondent's waist measurement by their hip measurement. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the waist or hip but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of this variable are assigned special missing value .m. This variable is set to plain missing (.) for respondents who did not participate in the current wave.

SwMWAIST, SwMHIP, SwWATCOMP, SwHIPCOMP, and SwMWHRATIO are the measures of the respondent's spouse and are taken directly from the spouse's RwMWAIST, RwMHIP, RwWATCOMP, RwHIPCOMP, and RwMWHRATIO, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwMWAIST, SwMHIP, SwWATCOMP, SwHIPCOMP, and SwMWHRATIO employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

In Waves 1 and 2, a single measurement was taken, which is used to assign values for these variables in these waves. In Wave 3, two measurements were taken, so the average of the two measurements is used to assign values for these variables in this wave.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a hip measurement, so RwMHIP, RwHIPCOMP, and RwMWHRATIO are not available in the RAND HRS or Harmonized HRS. The Harmonized HRS also includes RwHTFLR and RwWTFLR, indicating the floor surface during the respondent's height and weight measurements, RwSHOEH and RwSHOEW, indicating whether the respondent was wearing shoes during their height and weight measurements, and RwBULKY, indicating whether the respondent had on bulky clothes during their waist measurement.

## MHAS Variables Used

Master File:

ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Antropometrics 2012

Wave 1:

L1	selected for anthropometric measures
L3	weight
L4	height
L5	waist

L6	hip
Wave 2:	
L1	selected for anthropometric measures
L1A	present for measures
L3	weight
L4	height
L5	waist
L6	hip
Wave 3:	
A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
CADERA1_12	Hip circumference - first measurement
CADERA2_12	Hip circumference - second measurement
CINTURA1_12	Waist circumference - first measurement
CINTURA2_12	Waist circumference - second measurement
ESTATU1_12	Height - first measurement
ESTATU2_12	Height - second measurement
PESO1_12	Weight - first measurement
PESO2_12	Weight - second measurement

<b>Height, Weight, Waist and Hip Circumference Measurements: Reason Didn't Complete</b>
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Wave	Variable	Label	Type
1	R1HGHTSFT	r1hghtsft: w1 R cannot stand/straighten to complete height m	Categ
2	R2HGHTSFT	r2hghtsft: w2 R cannot stand/straighten to complete height m	Categ
3	R3HGHTSFT	r3hghtsft: w3 R cannot stand/straighten to complete height m	Categ
1	S1HGHTSFT	s1hghtsft: w1 S cannot stand/straighten to complete height m	Categ
2	S2HGHTSFT	s2hghtsft: w2 S cannot stand/straighten to complete height m	Categ
3	S3HGHTSFT	s3hghtsft: w3 S cannot stand/straighten to complete height m	Categ
1	R1HGHTTRYU	r1hgghttryu: w1 R tried but could not complete height measure	Categ
2	R2HGHTTRYU	r2hgghttryu: w2 R tried but could not complete height measure	Categ
3	R3HGHTTRYU	r3hgghttryu: w3 R tried but could not complete height measure	Categ
1	S1HGHTTRYU	s1hgghttryu: w1 S tried but could not complete height measure	Categ
2	S2HGHTTRYU	s2hgghttryu: w2 S tried but could not complete height measure	Categ
3	S3HGHTTRYU	s3hgghttryu: w3 S tried but could not complete height measure	Categ
1	R1HGHTREF	r1hgghtref: w1 R refused and did not try to complete height m	Categ
2	R2HGHTREF	r2hgghtref: w2 R refused and did not try to complete height m	Categ
3	R3HGHTREF	r3hgghtref: w3 R refused and did not try to complete height m	Categ
1	S1HGHTREF	s1hgghtref: w1 S refused and did not try to complete height m	Categ
2	S2HGHTREF	s2hgghtref: w2 S refused and did not try to complete height m	Categ
3	S3HGHTREF	s3hgghtref: w3 S refused and did not try to complete height m	Categ
1	R1WGHTSFT	r1wgghtsft: w1 R cannot stand to complete weight measurement	Categ
2	R2WGHTSFT	r2wgghtsft: w2 R cannot stand to complete weight measurement	Categ
3	R3WGHTSFT	r3wgghtsft: w3 R cannot stand to complete weight measurement	Categ
1	S1WGHTSFT	s1wgghtsft: w1 S cannot stand to complete weight measurement	Categ
2	S2WGHTSFT	s2wgghtsft: w2 S cannot stand to complete weight measurement	Categ
3	S3WGHTSFT	s3wgghtsft: w3 S cannot stand to complete weight measurement	Categ
1	R1WGHTTRYU	r1wgghttryu: w1 R tried but could not complete weight measure	Categ
2	R2WGHTTRYU	r2wgghttryu: w2 R tried but could not complete weight measure	Categ
3	R3WGHTTRYU	r3wgghttryu: w3 R tried but could not complete weight measure	Categ
1	S1WGHTTRYU	s1wgghttryu: w1 S tried but could not complete weight measure	Categ
2	S2WGHTTRYU	s2wgghttryu: w2 S tried but could not complete weight measure	Categ
3	S3WGHTTRYU	s3wgghttryu: w3 S tried but could not complete weight measure	Categ
1	R1WGHTREF	r1wgghtref: w1 R refused and did not try to complete weight m	Categ
2	R2WGHTREF	r2wgghtref: w2 R refused and did not try to complete weight m	Categ
3	R3WGHTREF	r3wgghtref: w3 R refused and did not try to complete weight m	Categ
1	S1WGHTREF	s1wgghtref: w1 S refused and did not try to complete weight m	Categ
2	S2WGHTREF	s2wgghtref: w2 S refused and did not try to complete weight m	Categ
3	S3WGHTREF	s3wgghtref: w3 S refused and did not try to complete weight m	Categ
1	R1WSTSFT	r1wstsft: w1 R cannot stand to complete waist measurement	Categ
2	R2WSTSFT	r2wstsft: w2 R cannot stand to complete waist measurement	Categ
3	R3WSTSFT	r3wstsft: w3 R cannot stand to complete waist measurement	Categ
1	S1WSTSFT	s1wstsft: w1 S cannot stand to complete waist measurement	Categ
2	S2WSTSFT	s2wstsft: w2 S cannot stand to complete waist measurement	Categ
3	S3WSTSFT	s3wstsft: w3 S cannot stand to complete waist measurement	Categ
1	R1WSTTRYU	r1wsttryu: w1 R tried but could not complete waist measureme	Categ

2	R2WSTTRYU	r2wsttryu: w2 R tried but could not complete waist measureme	Categ
3	R3WSTTRYU	r3wsttryu: w3 R tried but could not complete waist measureme	Categ
1	S1WSTTRYU	s1wsttryu: w1 S tried but could not complete waist measureme	Categ
2	S2WSTTRYU	s2wsttryu: w2 S tried but could not complete waist measureme	Categ
3	S3WSTTRYU	s3wsttryu: w3 S tried but could not complete waist measureme	Categ
1	R1WSTREF	rlwstref: w1 R refused and did not try to complete waist mea	Categ
2	R2WSTREF	r2wstref: w2 R refused and did not try to complete waist mea	Categ
3	R3WSTREF	r3wstref: w3 R refused and did not try to complete waist mea	Categ
1	S1WSTREF	slwstref: w1 S refused and did not try to complete waist mea	Categ
2	S2WSTREF	s2wstref: w2 S refused and did not try to complete waist mea	Categ
3	S3WSTREF	s3wstref: w3 S refused and did not try to complete waist mea	Categ
1	R1HIPSFT	rlhipsft: w1 R cannot stand to complete hip measurement	Categ
2	R2HIPSFT	r2hipsft: w2 R cannot stand to complete hip measurement	Categ
3	R3HIPSFT	r3hipsft: w3 R cannot stand to complete hip measurement	Categ
1	S1HIPSFT	slhipsft: w1 S cannot stand to complete hip measurement	Categ
2	S2HIPSFT	s2hipsft: w2 S cannot stand to complete hip measurement	Categ
3	S3HIPSFT	s3hipsft: w3 S cannot stand to complete hip measurement	Categ
1	R1HIPTRYU	rlhiptryu: w1 R tried but could not complete hip measurement	Categ
2	R2HIPTRYU	r2hiptryu: w2 R tried but could not complete hip measurement	Categ
3	R3HIPTRYU	r3hiptryu: w3 R tried but could not complete hip measurement	Categ
1	S1HIPTRYU	slhiptryu: w1 S tried but could not complete hip measurement	Categ
2	S2HIPTRYU	s2hiptryu: w2 S tried but could not complete hip measurement	Categ
3	S3HIPTRYU	s3hiptryu: w3 S tried but could not complete hip measurement	Categ
1	R1HIPREF	rlhipref: w1 R refused and did not try to complete hip measu	Categ
2	R2HIPREF	r2hipref: w2 R refused and did not try to complete hip measu	Categ
3	R3HIPREF	r3hipref: w3 R refused and did not try to complete hip measu	Categ
1	S1HIPREF	slhipref: w1 S refused and did not try to complete hip measu	Categ
2	S2HIPREF	s2hipref: w2 S refused and did not try to complete hip measu	Categ
3	S3HIPREF	s3hipref: w3 S refused and did not try to complete hip measu	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HGHTSFT	276	0.48	0.50	0.00	1.00
R2HGHTSFT	141	0.23	0.42	0.00	1.00
R3HGHTSFT	37	1.00	0.00	1.00	1.00
S1HGHTSFT	189	0.47	0.50	0.00	1.00
S2HGHTSFT	85	0.24	0.43	0.00	1.00
S3HGHTSFT	17	1.00	0.00	1.00	1.00
R1HGHTTRYU	276	0.03	0.17	0.00	1.00
R2HGHTTRYU	141	0.09	0.29	0.00	1.00
R3HGHTTRYU	37	0.00	0.00	0.00	0.00
S1HGHTTRYU	189	0.02	0.14	0.00	1.00
S2HGHTTRYU	85	0.09	0.29	0.00	1.00
S3HGHTTRYU	17	0.00	0.00	0.00	0.00
R1HGHTREF	276	0.49	0.50	0.00	1.00
R2HGHTREF	141	0.68	0.47	0.00	1.00
R3HGHTREF	37	0.00	0.00	0.00	0.00

S1HGHTREF	189	0.51	0.50	0.00	1.00
S2HGHTREF	85	0.67	0.47	0.00	1.00
S3HGHTREF	17	0.00	0.00	0.00	0.00
R1WGHTSFT	276	0.48	0.50	0.00	1.00
R2WGHTSFT	136	0.24	0.43	0.00	1.00
R3WGHTSFT	29	0.93	0.26	0.00	1.00
S1WGHTSFT	188	0.47	0.50	0.00	1.00
S2WGHTSFT	78	0.26	0.44	0.00	1.00
S3WGHTSFT	12	1.00	0.00	1.00	1.00
R1WGHTTRYU	276	0.03	0.16	0.00	1.00
R2WGHTTRYU	136	0.07	0.25	0.00	1.00
R3WGHTTRYU	29	0.07	0.26	0.00	1.00
S1WGHTTRYU	188	0.02	0.13	0.00	1.00
S2WGHTTRYU	78	0.05	0.22	0.00	1.00
S3WGHTTRYU	12	0.00	0.00	0.00	0.00
R1WGHTREF	276	0.50	0.50	0.00	1.00
R2WGHTREF	136	0.69	0.46	0.00	1.00
R3WGHTREF	2	0.00	0.00	0.00	0.00
S1WGHTREF	188	0.51	0.50	0.00	1.00
S2WGHTREF	78	0.69	0.46	0.00	1.00
S3WGHTREF	0	.	.	.	.
R1WSTSFT	282	0.45	0.50	0.00	1.00
R2WSTSFT	141	0.21	0.41	0.00	1.00
R3WSTSFT	33	0.85	0.36	0.00	1.00
S1WSTSFT	197	0.43	0.50	0.00	1.00
S2WSTSFT	85	0.21	0.41	0.00	1.00
S3WSTSFT	15	0.87	0.35	0.00	1.00
R1WSTTRYU	282	0.02	0.14	0.00	1.00
R2WSTTRYU	141	0.07	0.26	0.00	1.00
R3WSTTRYU	33	0.06	0.24	0.00	1.00
S1WSTTRYU	197	0.01	0.10	0.00	1.00
S2WSTTRYU	85	0.07	0.26	0.00	1.00
S3WSTTRYU	15	0.00	0.00	0.00	0.00
R1WSTREF	282	0.53	0.50	0.00	1.00
R2WSTREF	141	0.72	0.45	0.00	1.00
R3WSTREF	33	0.09	0.29	0.00	1.00
S1WSTREF	197	0.56	0.50	0.00	1.00
S2WSTREF	85	0.72	0.45	0.00	1.00
S3WSTREF	15	0.13	0.35	0.00	1.00
R1HIPSFT	284	0.45	0.50	0.00	1.00
R2HIPSFT	141	0.21	0.41	0.00	1.00
R3HIPSFT	32	0.88	0.34	0.00	1.00
S1HIPSFT	197	0.44	0.50	0.00	1.00
S2HIPSFT	85	0.20	0.40	0.00	1.00
S3HIPSFT	15	0.87	0.35	0.00	1.00
R1HIPTRYU	284	0.02	0.14	0.00	1.00
R2HIPTRYU	141	0.08	0.27	0.00	1.00
R3HIPTRYU	32	0.03	0.18	0.00	1.00

S1HIPTRYU	197	0.01	0.10	0.00	1.00
S2HIPTRYU	85	0.08	0.28	0.00	1.00
S3HIPTRYU	15	0.00	0.00	0.00	0.00
R1HIPREF	284	0.53	0.50	0.00	1.00
R2HIPREF	141	0.72	0.45	0.00	1.00
R3HIPREF	32	0.09	0.30	0.00	1.00
S1HIPREF	197	0.55	0.50	0.00	1.00
S2HIPREF	85	0.72	0.45	0.00	1.00
S3HIPREF	15	0.13	0.35	0.00	1.00

### Categorical Variable Codes

Value-----	R1HGHTSFT	R2HGHTSFT	R3HGHTSFT
.c:completed test	2537	2220	2049
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	144	109	
1.yes	132	32	37

Value-----	S1HGHTSFT	S2HGHTSFT	S3HGHTSFT
.c:completed test	1776	1550	1394
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	101	65	
1.yes	88	20	17

Value-----	R1HGHTTRYU	R2HGHTTRYU	R3HGHTTRYU
.c:completed test	2537	2220	2049
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	268	128	37
1.yes	8	13	

Value-----	S1HGHTTRYU	S2HGHTTRYU	S3HGHTTRYU
.c:completed test	1776	1550	1394
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	185	77	17
1.yes	4	8	

Value-----	R1HGHTREF	R2HGHTREF	R3HGHTREF
.c:completed test	2537	2220	2049
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	140	45	37
1.yes	136	96	

Value-----	S1HGHTREF	S2HGHTREF	S3HGHTREF
.c:completed test	1776	1550	1394
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	92	28	17
1.yes	97	57	

Value-----	R1WGHTSFT	R2WGHTSFT	R3WGHTSFT
.c:completed test	2537	2225	2057
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	144	103	2

1.yes	132	33	27
Value-----	S1WGHTSFT	S2WGHTSFT	S3WGHTSFT
.c:completed test	1777	1557	1399
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	99	58	
1.yes	89	20	12
Value-----	R1WGHTTRYU	R2WGHTTRYU	R3WGHTTRYU
.c:completed test	2537	2225	2057
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	269	127	27
1.yes	7	9	2
Value-----	S1WGHTTRYU	S2WGHTTRYU	S3WGHTTRYU
.c:completed test	1777	1557	1399
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	185	74	12
1.yes	3	4	
Value-----	R1WGHTREF	R2WGHTREF	R3WGHTREF
.c:completed test	2537	2225	2057
.m:Missing	131		245
.s:Skip	12242	11343	13419
0.no	139	42	2
1.yes	137	94	
Value-----	S1WGHTREF	S2WGHTREF	S3WGHTREF
.c:completed test	1777	1557	1399
.m:Missing	95		153
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	92	24	
1.yes	96	54	
Value-----	R1WSTSFT	R2WSTSFT	R3WSTSFT
.c:completed test	2531	2220	2053
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	156	111	5
1.yes	126	30	28
Value-----	S1WSTSFT	S2WSTSFT	S3WSTSFT
.c:completed test	1768	1550	1396
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	112	67	2
1.yes	85	18	13
Value-----	R1WSTTRYU	R2WSTTRYU	R3WSTTRYU
.c:completed test	2531	2220	2053
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	276	131	31
1.yes	6	10	2
Value-----	S1WSTTRYU	S2WSTTRYU	S3WSTTRYU
.c:completed test	1768	1550	1396
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782



.v:SP NR	333	131	349
0.no	195	79	15
1.yes	2	6	
Value-----	R1WSTREF	R2WSTREF	R3WSTREF
.c:completed test	2531	2220	2053
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	132	40	30
1.yes	150	101	3
Value-----	S1WSTREF	S2WSTREF	S3WSTREF
.c:completed test	1768	1550	1396
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	87	24	13
1.yes	110	61	2
Value-----	R1HIPSFT	R2HIPSFT	R3HIPSFT
.c:completed test	2529	2220	2054
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	156	112	4
1.yes	128	29	28
Value-----	S1HIPSFT	S2HIPSFT	S3HIPSFT
.c:completed test	1768	1550	1396
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	111	68	2
1.yes	86	17	13
Value-----	R1HIPTRYU	R2HIPTRYU	R3HIPTRYU
.c:completed test	2529	2220	2054
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	278	130	31
1.yes	6	11	1
Value-----	S1HIPTRYU	S2HIPTRYU	S3HIPTRYU
.c:completed test	1768	1550	1396
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	195	78	15
1.yes	2	7	
Value-----	R1HIPREF	R2HIPREF	R3HIPREF
.c:completed test	2529	2220	2054
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	134	40	29
1.yes	150	101	3
Value-----	S1HIPREF	S2HIPREF	S3HIPREF
.c:completed test	1768	1550	1396
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	88	24	13
1.yes	109	61	2

## How Constructed

RwHGHTSFT and RwwGHTSFT indicate whether the respondent couldn't complete the height and weight measures because of safety reasons, respectively. RwHGHTSFT and RwwGHTSFT are coded as 1 if the respondent couldn't stand to complete the measures or the measurements were not attempted for the respondent's safety. RwHGHTSFT and RwwGHTSFT are coded as 0 if they tried to measure the height or weight but couldn't do it, the respondent didn't try, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwHGHTTRYU and RwwGHTTRYU indicate whether the respondent tried to complete the height and weight measures but couldn't do it, respectively. RwHGHTSFT and RwwGHTSFT are coded as 1 if the respondent tried but couldn't complete the measures. RwHGHTSFT and RwwGHTSFT are coded as 0 if the respondent didn't try, couldn't stand, the measurements were not attempted for the respondent's safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwHGHTREF and RwwGHTREF indicate whether the respondent refused to complete the height and weight measures, respectively. RwHGHTREF and RwwGHTREF are coded as 1 if the respondent refused or didn't try to complete the measures. RwHGHTREF and RwwGHTREF are coded as 0 if they tried to measure the height or weight but couldn't do it, the respondent couldn't stand, or the measurements were not attempted for the respondent's safety. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwHGHTSFT, SwWGHTSFT, SwHGHTTRYU, SwWGHTTRYU, SwHGHTREF, and SwWGHTREF are the measures of the respondent's spouse and are taken directly from the spouse's RwHGHTSFT, RwwGHTSFT, RwHGHTTRYU, RwwGHTTRYU, RwHGHTREF, and RwwGHTREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwHGHTSFT, SwWGHTSFT, SwHGHTTRYU, SwWGHTTRYU, SwHGHTREF, and SwWGHTREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwWSTSFT and RwHIPSFT indicate whether the respondent couldn't complete the waist and hip circumference measurements because of safety reasons, respectively. RwWSTSFT and RwHIPSFT are coded as 1 if the respondent couldn't stand to complete the measures or the measurements were not attempted for the respondent's safety. RwWSTSFT and RwHIPSFT are coded as 0 if they tried to measure the waist and hip circumference but couldn't do it, the respondent didn't try, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWSTTRYU and RwHIPTRYU indicate whether the respondent tried to complete the waist and hip circumference measurements but couldn't do it, respectively. RwWSTTRYU and RwHIPTRYU are coded as 1 if the respondent tried but couldn't complete the measures. RwWSTTRYU and RwHIPTRYU are coded as 0 if the respondent didn't try, couldn't stand, the measurements were not attempted for the respondent's safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWSTREF and RwHIPREF indicate whether the respondent refused to complete the waist and hip circumference measurements, respectively. RwWSTREF and RwHIPREF are coded as 1 if the respondent refused or didn't try to complete the measures. RwWSTREF and RwHIPREF are coded as 0 if they tried to measure waist and hip circumference measurements but couldn't do it, the respondent couldn't stand, or the measurements were not attempted for the respondent's safety. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned

special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwWSTSFT, SwHIPSFT, SwWSTTRYU, SwHIPTRYU, SwWSTREF, and SwHIPREF are the measures of the respondent's spouse and are taken directly from the spouse's RwwSTSFT, RwwHIPSFT, RwwSTTRYU, RwwHIPTRYU, RwwSTREF, and RwwHIPREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwWSTSFT, SwHIPSFT, SwWSTTRYU, SwHIPTRYU, SwWSTREF, and SwHIPREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a hip measurement, so RwwHIPSFT, RwwHIPTRYU, and RwwHIPREF are not available in the RAND HRS or Harmonized HRS. The Harmonized HRS includes additional variables to indicate if the respondent did not complete the height, weight, and waist measurements due to faulty equipment or for other reasons. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the measurements, while a single reason is chosen to explain why the respondent did not complete the measurements in the MHAS.

## MHAS Variables Used

### Master File:

ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012

### Wave 1:

L1	selected for anthropometric measures
L3	weight
L4	height
L5	waist
L6	hip

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L3	weight
L4	height
L5	waist
L6	hip

### Wave 3:

A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
CADERA1_12	Hip circumference - first measurement
CADERA2_12	Hip circumference - second measurement
CINTURA1_12	Waist circumference - first measurement
CINTURA2_12	Waist circumference - second measurement
ESTATU1_12	Height - first measurement
ESTATU2_12	Height - second measurement
PESO1_12	Weight - first measurement
PESO2_12	Weight - second measurement

<b>Sitting Height</b>
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Wave	Variable	Label	Type
2	R2SITHGHT	r2sithght: w2 R Measured Sitting Height in cm	Cont
3	R3SITHGHT	r3sithght: w3 R Measured Sitting Height in cm	Cont
2	S2SITHGHT	s2sithght: w2 S Measured Sitting Height in cm	Cont
3	S3SITHGHT	s3sithght: w3 S Measured Sitting Height in cm	Cont
2	R2CHAIRHGHT	r2chairhght: w2 R Chair Height in cm	Cont
3	R3CHAIRHGHT	r3chairhght: w3 R Chair Height in cm	Cont
2	S2CHAIRHGHT	s2chairhght: w2 S Chair Height in cm	Cont
3	S3CHAIRHGHT	s3chairhght: w3 S Chair Height in cm	Cont
2	R2STHTCOMP	r2sthtcomp: w2 R willing & able to complete sitting height m	Categ
3	R3STHTCOMP	r3sthtcomp: w3 R willing & able to complete sitting height m	Categ
2	S2STHTCOMP	s2sthtcomp: w2 S willing & able to complete sitting height m	Categ
3	S3STHTCOMP	s3sthtcomp: w3 S willing & able to complete sitting height m	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2SITHGHT	2191	121.23	9.56	50.00	150.00
R3SITHGHT	2042	125.16	6.43	91.00	149.50
S2SITHGHT	1538	122.18	9.74	50.00	150.00
S3SITHGHT	1389	125.93	6.21	91.00	149.50
R2CHAIRHGHT	2193	43.88	4.45	25.00	70.00
R3CHAIRHGHT	2048	43.82	4.01	30.00	69.00
S2CHAIRHGHT	1538	44.08	4.50	25.00	70.00
S3CHAIRHGHT	1394	43.77	4.02	30.00	68.55
R2STHTCOMP	2361	0.93	0.26	0.00	1.00
R3STHTCOMP	2080	0.98	0.13	0.00	1.00
S2STHTCOMP	1635	0.94	0.24	0.00	1.00
S3STHTCOMP	1406	0.99	0.11	0.00	1.00

### Categorical Variable Codes

Value-----	R2STHTCOMP	R3STHTCOMP
.m:Missing		218
.s:Skip	11343	13419
0.no	170	38
1.yes	2191	2042
Value-----	S2STHTCOMP	S3STHTCOMP
.m:Missing		141
.s:Skip	7929	9040
.u:Unmar	4009	4782
.v:SP NR	131	349
0.no	97	17
1.yes	1538	1389

## How Constructed

RwSITHGHT is the measured sitting height variable and RwCHAIRHGHT is the chair height used to complete the measurement. RwSITHGHT and RwCHAIRHGHT are taken from a subsample of the MHAS and given in centimeters. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the sitting height but couldn't do it and a special missing value .n is used if they couldn't stop moving or cannot sit. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwSTHTCOMP indicates whether the respondent is willing and able to complete the sitting height measure. RwSTHTCOMP is coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwSTHTCOMP is coded as 0 if they tried to measure the sitting height but couldn't do it, the respondent didn't try, couldn't stop moving, cannot sit, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwSITHGHT, SwCHAIRHGHT, and SwSTHTCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwsITHGHT, RwsCHAIRHGHT, and RwsSTHTCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwSITHGHT, SwCHAIRHGHT, and SwSTHTCOMP employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The sitting height measures are only available for waves 2 and 3. In wave 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

In Wave 2, a single measurement was taken, which is used to assign values for these variables in this wave. In Wave 3, two measurements were taken, so the average of the two measurements is used to assign values for these variables in this wave.

The reasons the respondent could not complete the sitting height measurement changes between waves. In Wave 2, the option "cannot stand" is replaced with "cannot sit" in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a sitting height measurement, so these variables are not available in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

### Master File:

ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L7_1	seated height
L7_2	height of chair

### Wave 3:

A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
ASENT1_12	Sitting height - first measurement

---

ASENT2_12	Sitting height - second measurement
ASILLA1_12	Height of the chair - first measurement
ASILLA2_12	Height of the chair - second measurement

### Sitting Height: Reason Didn't Complete

Wave	Variable	Label	Type
2	R2STHTSFT	r2sthtsft: w2 R cannot sit/straighten to complete sitting he	Categ
3	R3STHTSFT	r3sthtsft: w3 R cannot sit/straighten to complete sitting he	Categ
2	S2STHTSFT	s2sthtsft: w2 S cannot sit/straighten to complete sitting he	Categ
3	S3STHTSFT	s3sthtsft: w3 S cannot sit/straighten to complete sitting he	Categ
2	R2STHTTRYU	r2sthttryu: w2 R tried but could not complete sitting height	Categ
3	R3STHTTRYU	r3sthttryu: w3 R tried but could not complete sitting height	Categ
2	S2STHTTRYU	s2sthttryu: w2 S tried but could not complete sitting height	Categ
3	S3STHTTRYU	s3sthttryu: w3 S tried but could not complete sitting height	Categ
2	R2STHTREF	r2sthtref: w2 R refused and did not try to complete sitting	Categ
3	R3STHTREF	r3sthtref: w3 R refused and did not try to complete sitting	Categ
2	S2STHTREF	s2sthtref: w2 S refused and did not try to complete sitting	Categ
3	S3STHTREF	s3sthtref: w3 S refused and did not try to complete sitting	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2STHTSFT	170	0.15	0.36	0.00	1.00
R3STHTSFT	38	0.97	0.16	0.00	1.00
S2STHTSFT	97	0.16	0.37	0.00	1.00
S3STHTSFT	17	1.00	0.00	1.00	1.00
R2STHTTRYU	170	0.09	0.28	0.00	1.00
R3STHTTRYU	38	0.03	0.16	0.00	1.00
S2STHTTRYU	97	0.06	0.24	0.00	1.00
S3STHTTRYU	17	0.00	0.00	0.00	0.00
R2STHTREF	170	0.76	0.43	0.00	1.00
R3STHTREF	38	0.00	0.00	0.00	0.00
S2STHTREF	97	0.77	0.42	0.00	1.00
S3STHTREF	17	0.00	0.00	0.00	0.00

### Categorical Variable Codes

Value	R2STHTSFT	R3STHTSFT
.c:completed test	2191	2042
.m:Missing		218
.s:Skip	11343	13419
0.no	144	1
1.yes	26	37

Value	S2STHTSFT	S3STHTSFT
.c:completed test	1538	1389
.m:Missing		141
.s:Skip	7929	9040
.u:Unmar	4009	4782
.v:SP NR	131	349
0.no	81	
1.yes	16	17

Value-----	R2STHTTRYU	R3STHTTRYU
.c:completed test	2191	2042
.m:Missing		218
.s:Skip	11343	13419
0.no	155	37
1.yes	15	1
Value-----	S2STHTTRYU	S3STHTTRYU
.c:completed test	1538	1389
.m:Missing		141
.s:Skip	7929	9040
.u:Unmar	4009	4782
.v:SP NR	131	349
0.no	91	17
1.yes	6	
Value-----	R2STHTREF	R3STHTREF
.c:completed test	2191	2042
.m:Missing		218
.s:Skip	11343	13419
0.no	41	38
1.yes	129	
Value-----	S2STHTREF	S3STHTREF
.c:completed test	1538	1389
.m:Missing		141
.s:Skip	7929	9040
.u:Unmar	4009	4782
.v:SP NR	131	349
0.no	22	17
1.yes	75	

## How Constructed

RwSTHTSFT indicates whether the respondent couldn't complete the sitting height measure because of safety reasons. RwSTHTSFT is coded as 1 if the respondent couldn't stop moving or cannot sit to complete the measure. RwSTHTSFT is coded as 0 if they tried to measure the sitting height but couldn't do it, the respondent didn't try, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwSTHTTRYU indicates whether the respondent tried to complete the sitting height measure but couldn't do it. RwSTHTTRYU is coded as 1 if the respondent tried but couldn't complete the measure. RwSTHTTRYU is coded as 0 if the respondent didn't try, couldn't stop moving, cannot sit, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwSTHTREF indicates whether the respondent refused to complete the sitting height measure. RwSTHTREF is coded as 1 if the respondent refused to complete the measure. RwSTHTREF is coded as 0 if they tried to measure the sitting height but couldn't do it, the respondent didn't try, couldn't stop moving, or cannot sit. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwSTHTSFT, SwSTHTTRYU, and SwSTHTREF are the measures of the respondent's spouse and are taken directly from the spouse's RwSTHTSFT, RwSTHTTRYU, and RwSTHTREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwSTHTSFT, SwSTHTTRYU, and SwSTHTREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.



## Cross Wave Differences in MHAS

The sitting height measures are only available for Waves 2 and 3. In Wave 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

The reasons the respondent could not complete the sitting height measurement changes between waves. In Wave 2, the option "cannot stand" is replaced with "cannot sit" in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a sitting height measurement, so these variables are not available in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

### Master File:

ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L7_1	seated height
L7_2	height of chair

### Wave 3:

A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
ASENT1_12	Sitting height - first measurement
ASENT2_12	Sitting height - second measurement

<b>Balance Test</b>
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Wave	Variable	Label	Type
1	R1BALRTSEC	r1balrtsec: w1 R Right Foot Balance Results (sec)	Cont
2	R2BALRTSEC	r2balrtsec: w2 R Right Foot Balance Results (sec)	Cont
3	R3BALRTSEC	r3balrtsec: w3 R Right Foot Balance Results (sec)	Cont
1	S1BALRTSEC	s1balrtsec: w1 S Right Foot Balance Results (sec)	Cont
2	S2BALRTSEC	s2balrtsec: w2 S Right Foot Balance Results (sec)	Cont
3	S3BALRTSEC	s3balrtsec: w3 S Right Foot Balance Results (sec)	Cont
1	R1BALRT	r1balrt: w1 R Right Foot Balance Test Completed 10 sec	Categ
2	R2BALRT	r2balrt: w2 R Right Foot Balance Test Completed 10 sec	Categ
3	R3BALRT	r3balrt: w3 R Right Foot Balance Test Completed 10 sec	Categ
1	S1BALRT	s1balrt: w1 S Right Foot Balance Test Completed 10 sec	Categ
2	S2BALRT	s2balrt: w2 S Right Foot Balance Test Completed 10 sec	Categ
3	S3BALRT	s3balrt: w3 S Right Foot Balance Test Completed 10 sec	Categ
1	R1BALRTCOMP	r1balrtcomp: w1 R willing & able to complete right foot bala	Categ
2	R2BALRTCOMP	r2balrtcomp: w2 R willing & able to complete right foot bala	Categ
3	R3BALRTCOMP	r3balrtcomp: w3 R willing & able to complete right foot bala	Categ
1	S1BALRTCOMP	s1balrtcomp: w1 S willing & able to complete right foot bala	Categ
2	S2BALRTCOMP	s2balrtcomp: w2 S willing & able to complete right foot bala	Categ
3	S3BALRTCOMP	s3balrtcomp: w3 S willing & able to complete right foot bala	Categ
1	R1BALLFSEC	r1ballfsec: w1 R Left Foot Balance Results (sec)	Cont
2	R2BALLFSEC	r2ballfsec: w2 R Left Foot Balance Results (sec)	Cont
3	R3BALLFSEC	r3ballfsec: w3 R Left Foot Balance Results (sec)	Cont
1	S1BALLFSEC	s1ballfsec: w1 S Left Foot Balance Results (sec)	Cont
2	S2BALLFSEC	s2ballfsec: w2 S Left Foot Balance Results (sec)	Cont
3	S3BALLFSEC	s3ballfsec: w3 S Left Foot Balance Results (sec)	Cont
1	R1BALLF	r1ballf: w1 R Left Foot Balance Test Completed 10 sec	Categ
2	R2BALLF	r2ballf: w2 R Left Foot Balance Test Completed 10 sec	Categ
3	R3BALLF	r3ballf: w3 R Left Foot Balance Test Completed 10 sec	Categ
1	S1BALLF	s1ballf: w1 S Left Foot Balance Test Completed 10 sec	Categ
2	S2BALLF	s2ballf: w2 S Left Foot Balance Test Completed 10 sec	Categ
3	S3BALLF	s3ballf: w3 S Left Foot Balance Test Completed 10 sec	Categ
1	R1BALLFCOMP	r1ballfcomp: w1 R willing & able to complete left foot balan	Categ
2	R2BALLFCOMP	r2ballfcomp: w2 R willing & able to complete left foot balan	Categ
3	R3BALLFCOMP	r3ballfcomp: w3 R willing & able to complete left foot balan	Categ
1	S1BALLFCOMP	s1ballfcomp: w1 S willing & able to complete left foot balan	Categ
2	S2BALLFCOMP	s2ballfcomp: w2 S willing & able to complete left foot balan	Categ
3	S3BALLFCOMP	s3ballfcomp: w3 S willing & able to complete left foot balan	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1BALRTSEC	2048	8.41	2.55	1.00	10.00
R2BALRTSEC	1887	8.29	2.78	1.00	10.00
R3BALRTSEC	1913	7.48	3.37	1.00	10.00
S1BALRTSEC	1477	8.57	2.45	1.00	10.00

S2BALRTSEC	1374	8.46	2.66	1.00	10.00
S3BALRTSEC	1332	7.72	3.24	1.00	10.00
R1BALRT	2048	0.65	0.48	0.00	1.00
R2BALRT	1887	0.67	0.47	0.00	1.00
R3BALRT	1913	0.58	0.49	0.00	1.00
S1BALRT	1477	0.68	0.47	0.00	1.00
S2BALRT	1374	0.70	0.46	0.00	1.00
S3BALRT	1332	0.61	0.49	0.00	1.00
R1BALRTCOMP	2759	0.74	0.44	0.00	1.00
R2BALRTCOMP	2361	0.80	0.40	0.00	1.00
R3BALRTCOMP	2086	0.92	0.28	0.00	1.00
S1BALRTCOMP	1925	0.77	0.42	0.00	1.00
S2BALRTCOMP	1635	0.84	0.37	0.00	1.00
S3BALRTCOMP	1411	0.94	0.23	0.00	1.00
R1BALLFSEC	2036	8.20	2.73	1.00	10.00
R2BALLFSEC	1872	8.18	2.82	1.00	10.00
R3BALLFSEC	1916	7.29	3.39	1.00	10.00
S1BALLFSEC	1472	8.37	2.64	1.00	10.00
S2BALLFSEC	1366	8.34	2.70	1.00	10.00
S3BALLFSEC	1334	7.54	3.29	1.00	10.00
R1BALLF	2036	0.63	0.48	0.00	1.00
R2BALLF	1872	0.65	0.48	0.00	1.00
R3BALLF	1916	0.54	0.50	0.00	1.00
S1BALLF	1472	0.66	0.47	0.00	1.00
S2BALLF	1366	0.68	0.47	0.00	1.00
S3BALLF	1334	0.58	0.49	0.00	1.00
R1BALLFCOMP	2758	0.74	0.44	0.00	1.00
R2BALLFCOMP	2361	0.79	0.41	0.00	1.00
R3BALLFCOMP	2086	0.92	0.27	0.00	1.00
S1BALLFCOMP	1924	0.77	0.42	0.00	1.00
S2BALLFCOMP	1635	0.84	0.37	0.00	1.00
S3BALLFCOMP	1411	0.95	0.23	0.00	1.00

### Categorical Variable Codes

Value-----	R1BALRT	R2BALRT	R3BALRT
.e:measured in error	54		
.m:Missing	131		218
.n:not willing/able	367	240	85
.r:Refuse	225	97	
.s:Skip	12242	11343	13419
.x:tried but unable	119	137	88
0.no	712	615	801
1.yes	1336	1272	1112
Value-----	S1BALRT	S2BALRT	S3BALRT
.e:measured in error	40		
.m:Missing	95		141
.n:not willing/able	209	116	39
.r:Refuse	172	62	
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
.x:tried but unable	67	83	40

0.no	475	409	518
1.yes	1002	965	814
Value-----	R1BALRTCOMP	R2BALRTCOMP	R3BALRTCOMP
.e:measured in error	54		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	711	474	173
1.yes	2048	1887	1913
Value-----	S1BALRTCOMP	S2BALRTCOMP	S3BALRTCOMP
.e:measured in error	40		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	448	261	79
1.yes	1477	1374	1332
Value-----	R1BALLF	R2BALLF	R3BALLF
.e:measured in error	55		
.m:Missing	131		218
.n:not willing/able	370	254	81
.r:Refuse	230	97	
.s:Skip	12242	11343	13419
.x:tried but unable	122	138	89
0.no	746	646	876
1.yes	1290	1226	1040
Value-----	S1BALLF	S2BALLF	S3BALLF
.e:measured in error	41		
.m:Missing	95		141
.n:not willing/able	208	126	38
.r:Refuse	177	62	
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
.x:tried but unable	67	81	39
0.no	497	443	565
1.yes	975	923	769
Value-----	R1BALLFCOMP	R2BALLFCOMP	R3BALLFCOMP
.e:measured in error	55		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	722	489	170
1.yes	2036	1872	1916
Value-----	S1BALLFCOMP	S2BALLFCOMP	S3BALLFCOMP
.e:measured in error	41		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	452	269	77
1.yes	1472	1366	1334

## How Constructed

RwBALRTSEC and RwBALLFSEC are the respective right and left foot balance test results, taken from a subsample of the MHAS and given in seconds. RwBALRT and RwBALLF indicate whether the respondent completed the balance test for at least 10 seconds, with the right and left foot, respectively. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if the respondent tried to complete the test but couldn't do it and a special missing value .n is used if they had a missing or injured extremity, couldn't stand up, or did not try for safety reasons. Refused responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. If the measurement was taken by mistake, then these variables are assigned special missing value .e. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwBALRTCOMP and RwBALLFCOMP indicate whether the respondent is willing and able to complete the balance test. RwSTHTCOMP is coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwSTHTCOMP is coded as 0 if the respondent tried to complete the test but couldn't do it, the respondent was missing a leg or was injured, the respondent didn't try, couldn't stand up, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. If the measurement was taken by mistake, then these variables are assigned special missing value .e. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwBALRTSEC, SwBALLFSEC, SwBALRT, SwBALLF, SwBALRTCOMP, and SwBALLFCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwBALRTSEC, RwBALLFSEC, RwBALRT, RwBALLF, RwBALRTCOMP, and RwBALLFCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwBALRTSEC, SwBALLFSEC, SwBALRT, SwBALLF, SwBALRTCOMP, and SwBALLFCOMP, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric and performance measures (including the balance test) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric and performance measures, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics and performance measures data was not collected in Waves 4 and 5.

## Differences with the RAND HRS/Harmonized HRS

While the HRS completes balance tests, they are not comparable to those completed in the MHAS. As such, there are no comparable variables in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

### Master File:

ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012

### Wave 1:

L1	selected for anthropometric measures
L9_1	right foot
L9_2	left foot

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L9_1	right foot
L9_2	left foot

### Wave 3:

PIEDER_12	Balance - on right foot
PIEIZQ_12	Balance - on left foot

<b>Balance Test: Reason Didn't Complete</b>
---

Wave	Variable	Label	Type
1	R1BALSFT	r1balsft: w1 R cannot complete balance test for safety reaso	Categ
2	R2BALSFT	r2balsft: w2 R cannot complete balance test for safety reaso	Categ
3	R3BALSFT	r3balsft: w3 R cannot complete balance test for safety reaso	Categ
1	S1BALSFT	s1balsft: w1 S cannot complete balance test for safety reaso	Categ
2	S2BALSFT	s2balsft: w2 S cannot complete balance test for safety reaso	Categ
3	S3BALSFT	s3balsft: w3 S cannot complete balance test for safety reaso	Categ
1	R1BALREF	r1balref: w1 R refused and did not try to complete balance t	Categ
2	R2BALREF	r2balref: w2 R refused and did not try to complete balance t	Categ
3	R3BALREF	r3balref: w3 R refused and did not try to complete balance t	Categ
1	S1BALREF	s1balref: w1 S refused and did not try to complete balance t	Categ
2	S2BALREF	s2balref: w2 S refused and did not try to complete balance t	Categ
3	S3BALREF	s3balref: w3 S refused and did not try to complete balance t	Categ
1	R1BALTRYU	r1baltryu: w1 R tried but could not complete balance test	Categ
2	R2BALTRYU	r2baltryu: w2 R tried but could not complete balance test	Categ
3	R3BALTRYU	r3baltryu: w3 R tried but could not complete balance test	Categ
1	S1BALTRYU	s1baltryu: w1 S tried but could not complete balance test	Categ
2	S2BALTRYU	s2baltryu: w2 S tried but could not complete balance test	Categ
3	S3BALTRYU	s3baltryu: w3 S tried but could not complete balance test	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1BALSFT	722	0.51	0.50	0.00	1.00
R2BALSFT	489	0.52	0.50	0.00	1.00
R3BALSFT	170	0.48	0.50	0.00	1.00
S1BALSFT	452	0.46	0.50	0.00	1.00
S2BALSFT	269	0.47	0.50	0.00	1.00
S3BALSFT	77	0.49	0.50	0.00	1.00
R1BALREF	722	0.32	0.47	0.00	1.00
R2BALREF	489	0.20	0.40	0.00	1.00
R3BALREF	170	0.00	0.00	0.00	0.00
S1BALREF	452	0.39	0.49	0.00	1.00
S2BALREF	269	0.23	0.42	0.00	1.00
S3BALREF	77	0.00	0.00	0.00	0.00
R1BALTRYU	722	0.17	0.37	0.00	1.00
R2BALTRYU	489	0.28	0.45	0.00	1.00
R3BALTRYU	170	0.52	0.50	0.00	1.00
S1BALTRYU	452	0.15	0.36	0.00	1.00
S2BALTRYU	269	0.30	0.46	0.00	1.00
S3BALTRYU	77	0.51	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1BALSFT	R2BALSFT	R3BALSFT
.c:completed test	2036	1872	1916

.e:measured in error	55		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	352	235	89
1.yes	370	254	81
Value-----	S1BALSFT	S2BALSFT	S3BALSFT
.c:completed test	1472	1366	1334
.e:measured in error	41		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	244	143	39
1.yes	208	126	38
Value-----	R1BALREF	R2BALREF	R3BALREF
.c:completed test	2036	1872	1916
.e:measured in error	55		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	492	392	170
1.yes	230	97	
Value-----	S1BALREF	S2BALREF	S3BALREF
.c:completed test	1472	1366	1334
.e:measured in error	41		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	275	207	77
1.yes	177	62	
Value-----	R1BALTRYU	R2BALTRYU	R3BALTRYU
.c:completed test	2036	1872	1916
.e:measured in error	55		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	600	351	81
1.yes	122	138	89
Value-----	S1BALTRYU	S2BALTRYU	S3BALTRYU
.c:completed test	1472	1366	1334
.e:measured in error	41		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	385	188	38
1.yes	67	81	39

## How Constructed

RwBALSFT indicates whether the respondent couldn't complete the balance test because of safety reasons. RwBALSFT is coded as 1 if the respondent was missing a leg or was injured, if the respondent couldn't stand to complete the measure, or if no attempt was made to complete the measure to be safe. RwBALSFT is coded as 0 if they tried to complete the balance test but couldn't do it, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwBALTRYU indicates whether the respondent tried to complete the balance test but couldn't do it. RwBALTRYU is coded as 1 if the respondent tried but couldn't complete the balance test. RwBALTRYU is coded as 0 if the respondent was missing a leg or was injured, couldn't stand, refused to complete the measures, or no attempt was made to be safe. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that

the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwBALREF indicates whether the respondent refused to complete the balance test. RwBALREF is coded as 1 if the respondent refused to complete the balance test. RwBALREF is coded as 0 if they tried to complete the balance test but couldn't do it, was missing a leg or was injured, couldn't stand, or no attempt was made to be safe. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwBALSFT, SwBALTRYU, and SwBALREF are the measures of the respondent's spouse and are taken directly from the spouse's RwBALSFT, RwBALTRYU, and RwBALREF, respectively. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. SwBALSFT, SwBALTRYU, and SwBALREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric and performance measures (including the balance test) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric and performance measures, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics and performance measures data was not collected in Waves 4 and 5.

## Differences with the RAND HRS/Harmonized HRS

While the HRS completes balance tests, they are not comparable to those completed in the MHAS. RwBALSFT, RwBALREF, and RwBALTRYU in the Harmonized HRS have the same naming as the variables in the MHAS, however the balance tests completed in the two studies are not comparable. The Harmonized HRS also includes RwbALEQUP and RwbALOTHR to indicate whether the respondent did not complete the tests due to faulty equipment/space issue or for other reasons. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the balance tests, while a single reason is chosen to explain why the respondent did not complete the balance tests in the MHAS.

## MHAS Variables Used

### Master File:

ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Antropometrics 2012

### Wave 1:

L1	selected for anthropometric measures
L9_1	right foot
L9_2	left foot

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L9_1	right foot
L9_2	left foot

### Wave 3:

PIEDER_12	Balance - on right foot
PIEIZQ_12	Balance - on left foot



<b>Blood Pressure Measurements</b>
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Wave	Variable	Label	Type
3	R3SYSTO1	r3systo1: w3 R Blood Pressure - Systolic Measure 1	Cont
3	S3SYSTO1	s3systo1: w3 S Blood Pressure - Systolic Measure 1	Cont
3	R3SYSTO2	r3systo2: w3 R Blood Pressure - Systolic Measure 2	Cont
3	S3SYSTO2	s3systo2: w3 S Blood Pressure - Systolic Measure 2	Cont
3	R3SYSTO	r3systo: w3 R Average Blood Pressure - Systolic Measures 1 &	Cont
3	S3SYSTO	s3systo: w3 S Average Blood Pressure - Systolic Measures 1 &	Cont
3	R3DIASTO1	r3diasto1: w3 R Blood Pressure - Diastolic Measure 1	Cont
3	S3DIASTO1	s3diasto1: w3 S Blood Pressure - Diastolic Measure 1	Cont
3	R3DIASTO2	r3diasto2: w3 R Blood Pressure - Diastolic Measure 2	Cont
3	S3DIASTO2	s3diasto2: w3 S Blood Pressure - Diastolic Measure 2	Cont
3	R3DIASTO	r3diasto: w3 R Average Blood Pressure - Diastolic Measures 1	Cont
3	S3DIASTO	s3diasto: w3 S Average Blood Pressure - Diastolic Measures 1	Cont
3	R3PULSE1	r3pulse1: w3 R Pulse Measure 1	Cont
3	S3PULSE1	s3pulse1: w3 S Pulse Measure 1	Cont
3	R3PULSE2	r3pulse2: w3 R Pulse Measure 2	Cont
3	S3PULSE2	s3pulse2: w3 S Pulse Measure 2	Cont
3	R3PULSE	r3pulse: w3 R Average Pulse - Measures 1 & 2	Cont
3	S3PULSE	s3pulse: w3 S Average Pulse - Measures 1 & 2	Cont
3	R3BPCOMP	r3bpcomp: w3 R willing & able to complete blood pressure mea	Categ
3	S3BPCOMP	s3bpcomp: w3 S willing & able to complete blood pressure mea	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SYSTO1	2086	139.86	21.80	82.00	190.00
S3SYSTO1	1411	138.80	21.26	88.00	190.00
R3SYSTO2	2086	137.06	21.38	72.00	190.00
S3SYSTO2	1411	136.00	20.86	72.00	190.00
R3SYSTO	2086	138.46	20.96	82.00	190.00
S3SYSTO	1411	137.40	20.42	85.50	190.00
R3DIASTO1	2086	79.21	11.66	42.00	126.00

S3DIASTO1	1411	79.46	11.51	43.00	126.00
R3DIASTO2	2086	78.57	11.60	40.00	121.00
S3DIASTO2	1411	78.83	11.33	40.00	121.00
R3DIASTO	2086	78.89	11.10	43.50	123.00
S3DIASTO	1411	79.14	10.91	43.50	123.00
R3PULSE1	2086	75.01	11.40	50.00	125.00
S3PULSE1	1411	74.91	11.48	50.00	125.00
R3PULSE2	2086	74.53	11.38	50.00	117.00
S3PULSE2	1411	74.36	11.36	50.00	117.00
R3PULSE	2086	74.77	11.13	50.00	116.00
S3PULSE	1411	74.63	11.16	50.00	116.00
R3BPCOMP	2086	1.00	0.00	1.00	1.00
S3BPCOMP	1411	1.00	0.00	1.00	1.00

## Categorical Variable Codes

Value-----	R3BPCOMP
.m:Missing	218
.s:Skip	13419
1.yes	2086

Value-----	S3BPCOMP
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
1.yes	1411

## How Constructed

RwSYSTO1 and R3SYSTO1 are the respondent's first and second systolic blood pressure measures. R3SYSTO is the average of the first and second systolic blood pressure readings. R3DIASTO1 and R3DIASTO2 are the respondent's first and second diastolic blood pressure measures. R3DIASTO is the average of the first and second diastolic blood pressure readings. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Respondents who refused to participate or did not cooperate are assigned special missing value .r. Also other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwPULSE1 and R3PULSE2 are the respondent's first and second pulse reading. R3PULSE is the average of the first and the second pulse readings. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Respondents who refused to participate or did not cooperate are assigned special missing value .r. Also other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwBPCOMP indicates whether the respondent is willing and able to complete the blood pressure measurements. R3BPCOMP is coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the measures, and the interviewer was able to complete the measures. R3BPCOMP is coded as 0 if the respondent had any physical problem, the respondent did not

cooperate, or refused to participate. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwSYSTO1, SwSYSTO1, SwSYSTO, SwDIASTO1, SwDIASTO2, SwDIASTO, SwPULSE1, SwPULSE2, SwPULSE, and SwBPCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwsYSTO1, RwsYSTO1, RwsYSTO, RwdIASTO1, RwdIASTO2, RwdIASTO, RwpULSE1, RwpULSE2, RwpULSE, and RwbPCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwSYSTO1, SwSYSTO1, SwSYSTO, SwDIASTO1, SwDIASTO2, SwDIASTO, SwPULSE1, SwPULSE2, SwPULSE, and SwBPCOMP, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

The blood pressure measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

### Differences with the RAND HRS/Harmonized HRS

The HRS measures blood pressure three times, while the MHAS measures blood pressure two times. As a result of this difference, the Harmonized HRS includes RwsYSTO3, RwdIASTO3, and RwpULSE3, and RwsYSTO, RwdIASTO, and RwpULSE are the average of the second and third measurements, where available. The Harmonized HRS also includes RwbPACT30, indicating whether the respondent did any activity in the last 30 minutes that could impact their blood pressure reading, and RwBLDPOS, indicating the respondent's position during the blood pressure readings.

### MHAS Variables Used

Master File:	
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 3:	
DIAS1_12	First measurement - diastolic pressure
DIAS2_12	Second measurement - diastolic pressure
PULSO1_12	First measurement - pulse
PULSO2_12	Second measurement - pulse
RPRES1_12	First measurement - Results of the measure
RPRES2_12	Second measurement - Results of the measure
SIST1_12	First measurement - systolic pressure
SIST2_12	Second measurement - systolic pressure

### Blood Pressure Measurements: Reason Didn't Complete

Wave	Variable	Label	Type
3	R3BPSFT	r3bpsft: w3 R cannot complete blood pressure measures for sa	Categ
3	S3BPSFT	s3bpsft: w3 S cannot complete blood pressure measures for sa	Categ
3	R3BPREF	r3bpsft: w3 R refused to complete blood pressure measures	Categ
3	S3BPREF	s3bpsft: w3 S refused to complete blood pressure measures	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3BPSFT	0	.	.	.	.
S3BPSFT	0	.	.	.	.
R3BPREF	0	.	.	.	.
S3BPREF	0	.	.	.	.

### Categorical Variable Codes

Value-----	R3BPSFT
.c:completed test	2086
.m:Missing	218
.s:Skip	13419
Value-----	S3BPSFT
.c:completed test	1411
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
Value-----	R3BPREF
.c:completed test	2086
.m:Missing	218
.s:Skip	13419
Value-----	S3BPREF
.c:completed test	1411
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349

### How Constructed

RwBPSFT indicates whether the respondent couldn't complete the blood pressure measurements because of safety reasons. RwBPSFT is coded as 1 if the respondent had any physical problem. RwBPSFT is coded as 0 if the respondent did not cooperate or refused to participate to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwBPREF indicates whether the respondent refused to complete the blood pressure measurements. RwBPREF is coded as 1 if the respondent did not cooperate or refused to participate to complete the measures.

RwBPREF is coded as 0 if the respondent had any physical problem. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwBPSFT and SwBPREF are the measures of the respondent's spouse and are taken directly from the spouse's RwbPSFT and RwbPREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwBPSFT and SwBPREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Please note that these variables are provided in the Harmonized MHAS, however, since all respondents either completed the measure, were not part of the subsample, or had missing values, there are no 0 or 1 values present in these variables.

### Cross Wave Differences in MHAS

The blood pressure measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

### Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS also includes RwbPTRYU, RwbPEQUP, and RwbPOTHR, indicating whether the respondent did not complete the blood pressure measurements for safety, equipment, or other reasons, respectively. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the measurements, while a single reason is chosen to explain why the respondent did not complete the measurements in the MHAS.

### MHAS Variables Used

Master File:

SUBSAMPLE\_12 Selected subsample for Biomarkers/Anthropometrics 2012

Wave 3:

DIAS1_12	First measurement - diastolic pressure
DIAS2_12	Second measurement - diastolic pressure
PULSO1_12	First measurement - pulse
PULSO2_12	Second measurement - pulse
RPRES1_12	First measurement - Results of the measure
RPRES2_12	Second measurement - Results of the measure
SIST1_12	First measurement - systolic pressure
SIST2_12	Second measurement - systolic pressure

<b>Timed Walk Measurements</b>
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Wave	Variable	Label	Type
3	R3WSPEED1	r3wspeed1: w3 R Walking Speed (sec) - Measure 1	Cont
3	S3WSPEED1	s3wspeed1: w3 S Walking Speed (sec) - Measure 1	Cont
3	R3WSPEED2	r3wspeed2: w3 R Walking Speed (sec) - Measure 2	Cont
3	S3WSPEED2	s3wspeed2: w3 S Walking Speed (sec) - Measure 2	Cont
3	R3WSPEED	r3wspeed: w3 R Average Walking Speed - Measures 1 & 2	Cont
3	S3WSPEED	s3wspeed: w3 S Average Walking Speed - Measures 1 & 2	Cont
3	R3WALKCOMP	r3walkcomp: w3 R willing & able to complete walking speed te	Categ
3	S3WALKCOMP	s3walkcomp: w3 S willing & able to complete walking speed te	Categ
3	R3WALKAID_M	r3walkaid_m: w3 Type of Aid Used during R's Walking Speed Te	Categ
3	S3WALKAID_M	s3walkaid_m: w3 Type of Aid Used during S's Walking Speed Te	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3WSPEED1	2065	5.81	13.09	2.00	256.00
S3WSPEED1	1404	5.37	12.06	2.00	256.00
R3WSPEED2	2065	5.41	12.68	1.00	272.00
S3WSPEED2	1404	4.92	10.90	2.00	272.00
R3WSPEED	2065	5.61	12.11	2.00	264.00
S3WSPEED	1404	5.14	11.21	2.00	264.00
R3WALKCOMP	2086	0.99	0.10	0.00	1.00
S3WALKCOMP	1411	1.00	0.07	0.00	1.00
R3WALKAID_M	2065	0.04	0.23	0.00	2.00
S3WALKAID_M	1404	0.02	0.17	0.00	2.00

### Categorical Variable Codes

Value-----	R3WALKCOMP
.m:Missing	218
.s:Skip	13419
0.no	21
1.yes	2065

Value-----	S3WALKCOMP
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349

0.no	7
1.yes	1404
Value-----	R3WALKAID_M
.m:Missing	218
.n:not willing/able	17
.r:Refuse	1
.s:Skip	13419
.x:tried but unable	3
0.None	2007
1.Cane	41
2.Other	17
Value-----	S3WALKAID_M
.m:Missing	141
.n:not willing/able	5
.r:Refuse	1
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
.x:tried but unable	1
0.None	1380
1.Cane	18
2.Other	6

## How Constructed

RwWSPEED1 and RwWSPEED2 are the respondent's first and second walking speed measures over a distance of 3 meters and RwWSPEED is the respective average. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. If the respondent could not maintain the position without help, couldn't understand the instructions, no attempt was made for safety, or did not complete the tests for other reasons, then these variables are assigned special missing value .n. Respondents who tried to complete the tests but were unable to are assigned special missing value .x, and respondents who refused to complete the tests are assigned special missing value .r. Also other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwWALKCOMP indicates whether the respondent is willing and able to complete the walking speed exercise. RwWALKCOMP is coded as 1 if the respondent understood the directions for the test and the respondent felt it would be safe to complete the exercise. RwWALKCOMP coded as 0 if the respondent tried but couldn't do it, the respondent couldn't hold the position without any help, refused to participate, couldn't understand the instructions, or didn't attempt the exercise for safety reasons or for other reasons. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKAID\_M indicates the type of walking aid the respondent used to complete the walking speed exercise. RwWALKAID\_M is coded as 0 if the respondent didn't use any aid to complete the exercise. RwWALKAID\_M is coded as 1 if the respondent used a cane, and is coded as 2 if the respondent used some other walking aid. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. If the respondent could not maintain the position without help, couldn't understand the instructions, no attempt was made for safety, or did not complete the tests for other reasons, then this variable is assigned special missing value .n. Respondents who tried to complete the tests but were unable to are assigned special missing value .x, and respondents who refused to complete the tests are assigned special missing value .r. Also other missing responses of this variable is assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwWSPEED1, SwWSPEED1, SwWSPEED, SwWALKCOMP and SwWALKAID\_M are the measures of the respondent's spouse and are taken directly from the spouse's RwWSPEED1, RwWSPEED1, RwWSPEED, RwWALKCOMP and RwWALKAID\_M, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwWSPEED1, SwWSPEED1, SwWSPEED, SwWALKCOMP and SwWALKAID\_M, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The walking speed exercise was only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

## Differences with the RAND HRS/Harmonized HRS

The walking speed test in the HRS is completed over a distance of 12 feet, while the walking speed test in the MHAS is completed over a distance of 3 meters.

In the Harmonized HRS, `RwWALKAID` is coded as 1.none, 2.walking stick or cane, 3.elbow crutches, 4.walking frame, 5.other. In the Harmonized MHAS, `RwWALKAID_M` is coded as 0.none, 1.cane, 2.other.

The Harmonized HRS also includes `RwWALKFLR`, indicating the floor surface during the respondent's walking speed test.

## MHAS Variables Used

Master File:

`SUBSAMPLE_12` Selected subsample for Biomarkers/Anthropometrics 2012

Wave 3:

<code>AYUDA1_12</code>	Walking speed - aids used for first test
<code>AYUDA2_12</code>	Walking speed - aids used for second test
<code>RTCAM1_12</code>	Walking speed - result of first test
<code>RTCAM2_12</code>	Walking speed - result of second test
<code>TCAM1_12</code>	Walking speed - time for first test
<code>TCAM2_12</code>	Walking speed - time for second test



**Timed Walk Measurements: Reason Didn't Complete**

Wave	Variable	Label	Type
3	R3WALKSFT	r3walksft: w3 R cannot complete walking speed test for safet	Categ
3	S3WALKSFT	s3walksft: w3 S cannot complete walking speed test for safet	Categ
3	R3WALKTRYU	r3walktryu: w3 R tried but could not complete walking speed	Categ
3	S3WALKTRYU	s3walktryu: w3 S tried but could not complete walking speed	Categ
3	R3WALKREF	r3walkref: w3 R refused to complete walking speed test	Categ
3	S3WALKREF	s3walkref: w3 S refused to complete walking speed test	Categ
3	R3WALKOTHR	r3walkothr: w3 R failed to complete walking speed test - oth	Categ
3	S3WALKOTHR	s3walkothr: w3 S failed to complete walking speed test - oth	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R3WALKSFT	21	0.24	0.44	0.00	1.00
S3WALKSFT	7	0.14	0.38	0.00	1.00
R3WALKTRYU	21	0.14	0.36	0.00	1.00
S3WALKTRYU	7	0.14	0.38	0.00	1.00
R3WALKREF	21	0.05	0.22	0.00	1.00
S3WALKREF	7	0.14	0.38	0.00	1.00
R3WALKOTHR	21	0.57	0.51	0.00	1.00
S3WALKOTHR	7	0.57	0.53	0.00	1.00

**Categorical Variable Codes**

Value	R3WALKSFT
.c:completed test	2065
.m:Missing	218
.s:Skip	13419
0.no	16
1.yes	5

Value	S3WALKSFT
.c:completed test	1404
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	6
1.yes	1

Value	R3WALKTRYU
.c:completed test	2065
.m:Missing	218
.s:Skip	13419

0.no	18
1.yes	3
Value-----	S3WALKTRYU
.c:completed test	1404
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	6
1.yes	1
Value-----	R3WALKREF
.c:completed test	2065
.m:Missing	218
.s:Skip	13419
0.no	20
1.yes	1
Value-----	S3WALKREF
.c:completed test	1404
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	6
1.yes	1
Value-----	R3WALKOTHR
.c:completed test	2065
.m:Missing	218
.s:Skip	13419
0.no	9
1.yes	12
Value-----	S3WALKOTHR
.c:completed test	1404
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	3
1.yes	4

## How Constructed

RwWALKSFT indicates whether the respondent couldn't complete the walking speed exercise because of safety reasons. RwWALKSFT is coded as 1 if the respondent couldn't hold the position without any help, or no attempt was made because the respondent or interviewer didn't feel it would be safe. RwWALKSFT is coded as 0 if the respondent tried but couldn't do it, couldn't understand the instructions, refused to participate, or because of any other reason not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKTRYU indicates whether the respondent tried to complete the walking speed exercise but couldn't do it. RwWALKTRYU is coded as 1 if the respondent tried but couldn't complete the exercise. RwWALKTRYU is coded as 0 if the respondent couldn't hold the position without any help, not attempt was made because the respondent or interviewer didn't feel it would be safe, the respondent couldn't understand the instructions, refused to participate, or because of any other reason not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKREF indicates whether the respondent refused to complete the walking speed exercise. RwWALKREF is coded as 1 if the respondent refused to complete the measures. RwWALKREF is coded as 0 if the respondent

tried to complete the walking speed exercise but couldn't do it, couldn't hold the position without any help, no attempt was made because the respondent or interviewer didn't feel it would be safe, the respondent couldn't understand the instructions, or because of any other reason not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKOTHR indicates whether the respondent didn't complete the walking speed exercise for other reasons. RwWALKOTHR is coded as 1 if the respondent could not understand the instructions or indicated other reasons for not completing the exercise. RwWALKOTHR is coded as 0 if the respondent tried to complete the walking speed exercise but couldn't do it, couldn't hold the position without any help, no attempt was made because the respondent or interviewer didn't feel it would be safe, or the respondent refused to complete the exercise. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKSFT, SwWALKTRYU, SwWALKREF, and SwWALKOTHR are the measures of the respondent's spouse and are taken directly from the spouse's RwWALKSFT, RwWALKTRYU, RwWALKREF, and RwWALKOTHR, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwWALKSFT, SwWALKTRYU, SwWALKREF, and SwWALKOTHR employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The walking speed exercise was only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

## Differences with the RAND HRS/Harmonized HRS

The walking speed test in the HRS is completed over a distance of 12 feet, while the walking speed test in the MHAS is completed over a distance of 3 meters.

The Harmonized HRS also includes RwWALKEQUP, indicating whether the respondent didn't complete the walking speed tests due to faulty equipment or space issues. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the tests, while a single reason is chosen to explain why the respondent did not complete the tests in the MHAS.

## MHAS Variables Used

Master File:

SUBSAMPLE\_12 Selected subsample for Biomarkers/Anthropometrics 2012

Wave 3:

AYUDA1_12	Walking speed - aids used for first test
AYUDA2_12	Walking speed - aids used for second test
RTCAM1_12	Walking speed - result of first test
RTCAM2_12	Walking speed - result of second test
TCAM1_12	Walking speed - time for first test
TCAM2_12	Walking speed - time for second test

<b>Hand Grip Strength Measurements</b>
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Wave	Variable	Label	Type
3	R3DOMHAND	r3domhand: w3 R Hand Grip Strength Measures - Dominant hand	Categ
3	S3DOMHAND	s3domhand: w3 S Hand Grip Strength Measures - Dominant hand	Categ
3	R3RGRIP1	r3rgrip1: w3 R Hand Grip Strength Right Hand - Measure 1 (kg)	Cont
3	S3RGRIP1	s3rgrip1: w3 S Hand Grip Strength Right Hand - Measure 1 (kg)	Cont
3	R3RGRIP2	r3rgrip2: w3 R Hand Grip Strength Right Hand - Measure 2 (kg)	Cont
3	S3RGRIP2	s3rgrip2: w3 S Hand Grip Strength Right Hand - Measure 2 (kg)	Cont
3	R3RGRIP	r3rgrip: w3 R Maximum Hand Grip Strength Right Hand - Measur	Cont
3	S3RGRIP	s3rgrip: w3 S Maximum Hand Grip Strength Right Hand - Measur	Cont
3	R3LGRIP1	r3lgrip1: w3 R Hand Grip Strength Left Hand - Measure 1 (kg)	Cont
3	S3LGRIP1	s3lgrip1: w3 S Hand Grip Strength Left Hand - Measure 1 (kg)	Cont
3	R3LGRIP2	r3lgrip2: w3 R Hand Grip Strength Left Hand - Measure 2 (kg)	Cont
3	S3LGRIP2	s3lgrip2: w3 S Hand Grip Strength Left Hand - Measure 2 (kg)	Cont
3	R3LGRIP	r3lgrip: w3 R Maximum Hand Grip Strength Left Hand - Measure	Cont
3	S3LGRIP	s3lgrip: w3 S Maximum Hand Grip Strength Left Hand - Measure	Cont
3	R3GRIPSUM	r3gripsum: w3 R Hand Grip Strength Dominant Hand	Cont
3	S3GRIPSUM	s3gripsum: w3 S Hand Grip Strength Dominant Hand	Cont
3	R3GRIPCOMP	r3gripcomp: w3 R willing & able to complete hand grip test	Categ
3	S3GRIPCOMP	s3gripcomp: w3 S willing & able to complete hand grip test	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3DOMHAND	2080	1.16	0.48	1.00	3.00
S3DOMHAND	1408	1.16	0.48	1.00	3.00
R3RGRIP1	1950	25.00	8.92	0.80	62.00
S3RGRIP1	1317	26.26	9.05	0.80	62.00
R3RGRIP2	1950	25.62	8.84	0.30	58.00
S3RGRIP2	1317	26.89	8.97	0.30	58.00
R3RGRIP	1950	26.25	8.88	2.00	62.00
S3RGRIP	1317	27.58	9.00	2.00	62.00
R3LGRIP1	257	25.39	10.24	1.40	62.00

S3LGRIPI1	176	27.30	10.18	2.00	62.00
R3LGRIPI2	257	25.93	10.05	2.00	56.00
S3LGRIPI2	176	27.93	9.97	2.00	56.00
R3LGRIPI	257	26.63	10.21	2.00	62.00
S3LGRIPI	176	28.55	10.15	2.00	62.00
R3GRIPSUM	2072	26.20	9.00	2.00	62.00
S3GRIPSUM	1402	27.59	9.07	2.00	62.00
R3GRIPCOMP	2086	1.00	0.05	0.00	1.00
S3GRIPCOMP	1411	1.00	0.05	0.00	1.00

### Categorical Variable Codes

Value-----	R3DOMHAND
.m:Missing	218
.n:not willing/able	6
.s:Skip	13419
1.Right hand	1848
2.Left hand	132
3.Both hands equally dominant	100
Value-----	S3DOMHAND
.m:Missing	141
.n:not willing/able	3
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
1.Right hand	1248
2.Left hand	93
3.Both hands equally dominant	67
Value-----	R3GRIPCOMP
.m:Missing	218
.s:Skip	13419
0.no	6
1.yes	2080
Value-----	S3GRIPCOMP
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	3
1.yes	1408

### How Constructed

RwDOMHAND indicates the respondent's dominant hand. RwDOMHAND is coded as follows: 1.right hand, 2.left hand, and 3.both hands are equally dominant. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .n is used if the respondent reported that it was not possible to do the test with any hand, and so was not asked this question. Other missing responses are assigned special missing code .m and the variable is set to plain missing (.) for respondents who did not participate in the current wave.

SwDOMHAND indicates the current wave's spouse's dominant hand, and is taken from RwDOMHAND. In addition to the special missing codes used for RwDOMHAND, SwDOMHAND employs two additional missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current

wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwLGRIPI1, RwLGRIPI2, RwRGRIP1, and RwRGRIP2 indicate the respondent's first and second hand strength measurements for the left and right hand, respectively. RwLGRIPI and RwRGRIP indicate the respondent's maximum hand strength measurement for the left and right hand, respectively. RwGRIPSUM indicates the maximum measurement of the dominant hand, as such, RwLGRIPI is used for respondents with a dominant left hand, and RwRGRIP is used for respondents with a dominant right hand. For respondents with equally dominant hands, the greater value between RwLGRIPI and RwRGRIP is used. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .n is used if the respondent reported that it was not possible to do the test with any hand. A special missing value .t is used for RwRGRIP1, RwRGRIP2, RwRGRIP, and RwGRIPSUM if the respondent could not complete the test with their right hand. A special missing value .l is used to RwLGRIPI1, RwLGRIPI2, RwLGRIPI, and RwGRIPSUM if the respondent could not complete the test with their left hand. Other missing responses are assigned special missing code .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwLGRIPI1, SwLGRIPI2, SwRGRIP1, SwRGRIP2, SwLGRIPI, SwRGRIP, and SwGRIPSUM are the measures of the respondent's spouse and are taken directly from the spouse's RwLGRIPI1, RwLGRIPI2, RwRGRIP1, RwRGRIP2, RwLGRIPI, RwRGRIP, and RwGRIPSUM, respectively. In addition to the special missing codes used for the respondent variables, the spouse variables employ two additional missing codes, .u and .v. SwLGRIPI1, SwLGRIPI2, SwRGRIP1, SwRGRIP2, SwLGRIPI, SwRGRIP, and SwGRIPSUM, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwGRIPCOMP indicates whether the respondent is willing and able to complete the hand strength measurements. RwGRIPCOMP is coded as 1 if the respondent was able to complete the measurements with at least one hand. RwGRIPCOMP coded as 0 if the respondent was not able to complete the measurements with any hand. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwGRIPCOMP is the measure of the respondent's spouse and is taken directly from the spouse's RwGRIPCOMP. In addition to the special missing codes used for the RwGRIPCOMP, SwGRIPCOMP employs two additional missing codes, .u and .v. SwGRIPCOMP employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The hand strength measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

## Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS includes additional variables indicating the amount of effort the respondent gave the grip strength test (RwGRIPPEFF), the respondent's position during the grip strength test (RwGRIPPOS), and whether the respondent rested their arms on a support during the grip strength test (RwGRIPRSTA).

## MHAS Variables Used

Master File:

SUBSAMPLE\_12 Selected subsample for Biomarkers/Anthropometrics 2012

Wave 3:

FUERZA_12	Hand grip strength - Is it safe for you to do this meas
MANOF_12	Hand grip strength - dominant hand?
MDER1_12	Hand grip strength - right hand, first measurement
MDER2_12	Hand grip strength - right hand, second measurement
MIZQ1_12	Hand grip strength - left hand, first measurement
MIZQ2_12	Hand grip strength - left hand, second measurement
RFUERZA_12	Hand grip strength - Interviewer: reason test was not p

### Hand Grip Strength Measurements: Reason Didn't Complete

Wave	Variable	Label	Type
3	R3GRIPSFT	r3gripsft: w3 R cannot complete hand grip test for safety re	Categ
3	S3GRIPSFT	s3gripsft: w3 S cannot complete hand grip test for safety re	Categ
3	R3GRIPREF	r3gripref: w3 R refused to complete hand grip test	Categ
3	S3GRIPREF	s3gripref: w3 S refused to complete hand grip test	Categ
3	R3GRIPOTHR	r3gripothr: w3 R didn't complete hand grip test - other	Categ
3	S3GRIPOTHR	s3gripothr: w3 S didn't complete hand grip test - other	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3GRIPSFT	6	0.67	0.52	0.00	1.00
S3GRIPSFT	3	0.67	0.58	0.00	1.00
R3GRIPREF	6	0.00	0.00	0.00	0.00
S3GRIPREF	3	0.00	0.00	0.00	0.00
R3GRIPOTHR	6	0.33	0.52	0.00	1.00
S3GRIPOTHR	3	0.33	0.58	0.00	1.00

### Categorical Variable Codes

Value	R3GRIPSFT
.c:completed test	2080
.m:Missing	218
.s:Skip	13419
0.no	2
1.yes	4

Value	S3GRIPSFT
.c:completed test	1408
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	1
1.yes	2

Value	R3GRIPREF
.c:completed test	2080
.m:Missing	218
.s:Skip	13419
0.no	6

Value	S3GRIPREF
.c:completed test	1408
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	3

Value-----	R3GRIPOTHR
.c:completed test	2080
.m:Missing	218
.s:Skip	13419
0.no	4
1.yes	2
Value-----	S3GRIPOTHR
.c:completed test	1408
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	2
1.yes	1

## How Constructed

RwGRIPSFT indicates whether the respondent couldn't complete the hand grip measurements because of safety reasons. RwGRIPSFT is coded as 1 if no attempt was made because the respondent or interviewer felt it was unsafe, or if the respondent couldn't participate due to surgery, inflammation, pain, etc, or other health condition. RwGRIPSFT is coded as 0 if the respondent didn't understand the instructions, refused to participate, or for any other reasons not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwGRIPREF indicates whether the respondent refused to complete hand grip measurements. RwGRIPREF is coded as 1 if the respondent refused to complete the measures. RwGRIPREF is coded as 0 if no attempt was made because the respondent or interviewer felt it was unsafe, the respondent didn't understand the instructions, couldn't participate because of an injury or any health condition, or any other reasons not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwGRIPOTHR indicates whether the respondent didn't complete the hand grip measurements for other reasons. RwGRIPOTHR is coded as 1 if the respondent couldn't understand the instructions or indicated other reasons for not completing the measurement. RwGRIPOTHR is coded as 0 if no attempt was made because the respondent or interviewer felt it was unsafe, the respondent refused to participate, or couldn't participate because of an injury or any health condition. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwGRIPSFT, SwGRIPREF, and SwGRIPOTHR are the measures of the respondent's spouse and are taken directly from the spouse's RwGRIPSFT, RwGRIPREF, and RwGRIPOTHR, respectively. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing values. SwGRIPSFT, SwGRIPREF, and SwGRIPOTHR employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The hand strength measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

## Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS also includes RwGRIPTRYU and RwGRIPSEQUP, indicating whether the respondent did not



complete the grip strength measurements because they tried but were unable to complete it or due to faulty equipment, respectively.

### MHAS Variables Used

Master File:

SUBSAMPLE\_12 Selected subsample for Biomarkers/Anthropometrics 2012

Wave 3:

FUERZA\_12 Hand grip strength - Is it safe for you to do this meas  
MANOF\_12 Hand grip strength - dominant hand?  
MDER1\_12 Hand grip strength - right hand, first measurement  
MDER2\_12 Hand grip strength - right hand, second measurement  
MIZQ1\_12 Hand grip strength - left hand, first measurement  
MIZQ2\_12 Hand grip strength - left hand, second measurement  
RFUERZA\_12 Hand grip strength - Interviewer: reason test was not p

## **Section L: Assistance and Caregiving**

<b>ADL Help</b>
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Wave	Variable	Label	Type
1	R1DRESSHLP	r1dresshlp:w1 whether anyone helps R dress	Categ
2	R2DRESSHLP	r2dresshlp:w2 whether anyone helps R dress	Categ
3	R3DRESSHLP	r3dresshlp:w3 whether anyone helps R dress	Categ
4	R4DRESSHLP	r4dresshlp:w4 whether anyone helps R dress	Categ
1	S1DRESSHLP	s1dresshlp:w1 whether anyone helps S dress	Categ
2	S2DRESSHLP	s2dresshlp:w2 whether anyone helps S dress	Categ
3	S3DRESSHLP	s3dresshlp:w3 whether anyone helps S dress	Categ
4	S4DRESSHLP	s4dresshlp:w4 whether anyone helps S dress	Categ
1	R1WALKHLP	r1walkhlp:w1 whether anyone helps R walk	Categ
2	R2WALKHLP	r2walkhlp:w2 whether anyone helps R walk	Categ
3	R3WALKHLP	r3walkhlp:w3 whether anyone helps R walk	Categ
4	R4WALKHLP	r4walkhlp:w4 whether anyone helps R walk	Categ
1	S1WALKHLP	s1walkhlp:w1 whether anyone helps S walk	Categ
2	S2WALKHLP	s2walkhlp:w2 whether anyone helps S walk	Categ
3	S3WALKHLP	s3walkhlp:w3 whether anyone helps S walk	Categ
4	S4WALKHLP	s4walkhlp:w4 whether anyone helps S walk	Categ
1	R1BATHEHLP	r1bathehlp:w1 whether anyone helps R bathe	Categ
2	R2BATHEHLP	r2bathehlp:w2 whether anyone helps R bathe	Categ
3	R3BATHEHLP	r3bathehlp:w3 whether anyone helps R bathe	Categ
4	R4BATHEHLP	r4bathehlp:w4 whether anyone helps R bathe	Categ
1	S1BATHEHLP	s1bathehlp:w1 whether anyone helps S bathe	Categ
2	S2BATHEHLP	s2bathehlp:w2 whether anyone helps S bathe	Categ
3	S3BATHEHLP	s3bathehlp:w3 whether anyone helps S bathe	Categ
4	S4BATHEHLP	s4bathehlp:w4 whether anyone helps S bathe	Categ
1	R1EATHLP	r1eathlp:w1 whether anyone helps R eat	Categ
2	R2EATHLP	r2eathlp:w2 whether anyone helps R eat	Categ
3	R3EATHLP	r3eathlp:w3 whether anyone helps R eat	Categ
4	R4EATHLP	r4eathlp:w4 whether anyone helps R eat	Categ
1	S1EATHLP	s1eathlp:w1 whether anyone helps S eat	Categ
2	S2EATHLP	s2eathlp:w2 whether anyone helps S eat	Categ
3	S3EATHLP	s3eathlp:w3 whether anyone helps S eat	Categ
4	S4EATHLP	s4eathlp:w4 whether anyone helps S eat	Categ
1	R1BEDHLP	r1bedhlp:w1 whether anyone helps R get in/out of bed	Categ
2	R2BEDHLP	r2bedhlp:w2 whether anyone helps R get in/out of bed	Categ
3	R3BEDHLP	r3bedhlp:w3 whether anyone helps R get in/out of bed	Categ
4	R4BEDHLP	r4bedhlp:w4 whether anyone helps R get in/out of bed	Categ
1	S1BEDHLP	s1bedhlp:w1 whether anyone helps S get in/out of bed	Categ
2	S2BEDHLP	s2bedhlp:w2 whether anyone helps S get in/out of bed	Categ
3	S3BEDHLP	s3bedhlp:w3 whether anyone helps S get in/out of bed	Categ
4	S4BEDHLP	s4bedhlp:w4 whether anyone helps S get in/out of bed	Categ
1	R1TOILETHLP	r1toilethlp:w1 whether anyone helps R use the toilet	Categ
2	R2TOILETHLP	r2toilethlp:w2 whether anyone helps R use the toilet	Categ
3	R3TOILETHLP	r3toilethlp:w3 whether anyone helps R use the toilet	Categ
4	R4TOILETHLP	r4toilethlp:w4 whether anyone helps R use the toilet	Categ
1	S1TOILETHLP	s1toilethlp:w1 whether anyone helps S use the toilet	Categ
2	S2TOILETHLP	s2toilethlp:w2 whether anyone helps S use the toilet	Categ

3 S3TOILETHLP s3toilethlp:w3 whether anyone helps S use the toilet Categ  
 4 S4TOILETHLP s4toilethlp:w4 whether anyone helps S use the toilet Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DRESSHLP	870	0.37	0.48	0.00	1.00
R2DRESSHLP	773	0.40	0.49	0.00	1.00
R3DRESSHLP	1339	0.29	0.46	0.00	1.00
R4DRESSHLP	1506	0.37	0.48	0.00	1.00
S1DRESSHLP	551	0.37	0.48	0.00	1.00
S2DRESSHLP	464	0.40	0.49	0.00	1.00
S3DRESSHLP	815	0.29	0.46	0.00	1.00
S4DRESSHLP	875	0.35	0.48	0.00	1.00
R1WALKHLP	775	0.57	0.49	0.00	1.00
R2WALKHLP	763	0.60	0.49	0.00	1.00
R3WALKHLP	1244	0.43	0.50	0.00	1.00
R4WALKHLP	1354	0.41	0.49	0.00	1.00
S1WALKHLP	421	0.61	0.49	0.00	1.00
S2WALKHLP	395	0.62	0.49	0.00	1.00
S3WALKHLP	621	0.38	0.49	0.00	1.00
S4WALKHLP	639	0.40	0.49	0.00	1.00
R1BATHEHLP	543	0.73	0.44	0.00	1.00
R2BATHEHLP	518	0.77	0.42	0.00	1.00
R3BATHEHLP	802	0.71	0.45	0.00	1.00
R4BATHEHLP	1009	0.69	0.46	0.00	1.00
S1BATHEHLP	285	0.73	0.44	0.00	1.00
S2BATHEHLP	273	0.79	0.40	0.00	1.00
S3BATHEHLP	357	0.65	0.48	0.00	1.00
S4BATHEHLP	470	0.63	0.48	0.00	1.00
R1EATHLP	295	0.79	0.41	0.00	1.00
R2EATHLP	267	0.83	0.38	0.00	1.00
R3EATHLP	580	0.65	0.48	0.00	1.00
R4EATHLP	603	0.70	0.46	0.00	1.00
S1EATHLP	143	0.75	0.44	0.00	1.00
S2EATHLP	141	0.87	0.34	0.00	1.00
S3EATHLP	283	0.59	0.49	0.00	1.00
S4EATHLP	295	0.62	0.49	0.00	1.00
R1BEDHLP	771	0.51	0.50	0.00	1.00
R2BEDHLP	672	0.54	0.50	0.00	1.00
R3BEDHLP	1304	0.39	0.49	0.00	1.00
R4BEDHLP	1479	0.38	0.49	0.00	1.00
S1BEDHLP	464	0.54	0.50	0.00	1.00
S2BEDHLP	377	0.56	0.50	0.00	1.00
S3BEDHLP	731	0.34	0.47	0.00	1.00
S4BEDHLP	807	0.36	0.48	0.00	1.00
R1TOILETHLP	533	0.53	0.50	0.00	1.00
R2TOILETHLP	488	0.63	0.48	0.00	1.00
R3TOILETHLP	1015	0.46	0.50	0.00	1.00
R4TOILETHLP	989	0.46	0.50	0.00	1.00
S1TOILETHLP	295	0.51	0.50	0.00	1.00

S2TOILETHLP	258	0.65	0.48	0.00	1.00
S3TOILETHLP	509	0.42	0.49	0.00	1.00
S4TOILETHLP	507	0.42	0.49	0.00	1.00

### Categorical Variable Codes

Value-----	R1DRESSHLP	R2DRESSHLP	R3DRESSHLP	R4DRESSHLP
.d:DK	11			7
.m:Missing	106	25	5	40
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	20	1	1	1
.x:no difficulty	13147	11727	13103	12296
0.No	551	461	945	951
1.Yes	319	312	394	555

Value-----	S1DRESSHLP	S2DRESSHLP	S3DRESSHLP	S4DRESSHLP
.d:DK	7			7
.m:Missing	64	6	1	10
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	11	1	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9355	8272	9049	8290
0.No	348	279	575	572
1.Yes	203	185	240	303

Value-----	R1WALKHLP	R2WALKHLP	R3WALKHLP	R4WALKHLP
.d:DK	38		31	6
.m:Missing	40	61		40
.r:Refuse	151		5	1
.x:no difficulty	14182	12880	14443	13378
0.No	331	304	711	795
1.Yes	444	459	533	559

Value-----	S1WALKHLP	S2WALKHLP	S3WALKHLP	S4WALKHLP
.d:DK	24		25	5
.m:Missing	14	33		10
.r:Refuse	95		2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	10094	9136	9944	8998
0.No	164	152	383	386
1.Yes	257	243	238	253

Value-----	R1BATHEHLP	R2BATHEHLP	R3BATHEHLP	R4BATHEHLP
.d:DK	38	1	31	7
.m:Missing	40	64		40
.r:Refuse	165		2	1
.x:no difficulty	14400	13121	14888	13722
0.No	147	118	231	316
1.Yes	396	400	571	693

Value-----	S1BATHEHLP	S2BATHEHLP	S3BATHEHLP	S4BATHEHLP
.d:DK	24		25	6
.m:Missing	14	32		10
.r:Refuse	97		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	10228	9259	10209	9166
0.No	77	56	124	173
1.Yes	208	217	233	297

Value-----	R1EATHLP	R2EATHLP	R3EATHLP	R4EATHLP
.d:DK	37	1	31	6
.m:Missing	40	58		40
.r:Refuse	159		3	2
.x:no difficulty	14655	13378	15109	14128
0.No	62	46	202	179
1.Yes	233	221	378	424

Value-----	S1EATHLP	S2EATHLP	S3EATHLP	S4EATHLP
.d:DK	24		25	5
.m:Missing	14	30		10
.r:Refuse	96		1	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	10371	9393	10283	9341
0.No	36	19	115	113
1.Yes	107	122	168	182

Value-----	R1BEDHLP	R2BEDHLP	R3BEDHLP	R4BEDHLP
.d:DK	39	1	32	6
.m:Missing	40	57		40
.r:Refuse	162		4	1
.x:no difficulty	14174	12974	14383	13253
0.No	374	307	796	913
1.Yes	397	365	508	566

Value-----	S1BEDHLP	S2BEDHLP	S3BEDHLP	S4BEDHLP
.d:DK	24		26	5
.m:Missing	14	30		10
.r:Refuse	101		2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	10045	9157	9833	8830
0.No	215	164	482	517
1.Yes	249	213	249	290

Value-----	R1TOILETHLP	R2TOILETHLP	R3TOILETHLP	R4TOILETHLP
.d:DK	49	1	33	6
.m:Missing	40	59		40
.r:Refuse	179		4	1
.x:no difficulty	14385	13156	14671	13743
0.No	250	183	551	535
1.Yes	283	305	464	454

Value-----	S1TOILETHLP	S2TOILETHLP	S3TOILETHLP	S4TOILETHLP
.d:DK	30		26	5
.m:Missing	14	30		10
.r:Refuse	109		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	10200	9276	10056	9130
0.No	144	91	296	296
1.Yes	151	167	213	211

## How Constructed

RwDRESSHLP, RwWALKHLP, RwbATHEHLP, RWEATHLP, RwbEDHLP, and RwtOILETHLP indicate whether anyone helps the respondent with each ADL. RwdRESSHLP indicates whether anyone helps the respondent dress. RwwALKHLP indicates whether anyone helps the respondent walk across a room. RwbATHEHLP indicates whether anyone helps the respondent bathe or shower. RweATHLP indicates whether anyone helps the respondent eat, such as cutting up food. RwbEDHLP indicates whether anyone helps the respondent get into or out of bed. RwtOILETHLP indicates whether anyone helps the respondent use the toilet, including getting on or off the toilet or squatting. These variables are coded as 1 if someone helps the respondent with the ADL. These variables are coded as 0 if nobody helps the respondent with the ADL. If the respondent indicates having no difficulty with the ADL or with other mobility tasks that precede the ADL questions in the interview, then RwdRESSHLP, RwwALKHLP, RwbATHEHLP, RweATHLP, RwbEDHLP, and RwtOILETHLP are assigned special missing value .x. If the interview is conducted by proxy, then questions about help dressing are not asked and RwdRESSHLP is assigned special missing value .p. 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 (.) for respondents who did not participate in the current wave.

SwDRESSHLP, SwWALKHLP, SwBATHEHLP, SwEATHLP, SwBEDHLP, and SwTOILETHLP indicate whether anyone helps the respondent's current wave's spouse with the associated ADL. These values are taken from RwdRESSHLP, RwwALKHLP, RwbATHEHLP, RweATHLP, RwbEDHLP, and RwtOILETHLP. In addition to the special missing codes employed by RwdRESSHLP, RwwALKHLP, RwbATHEHLP, RweATHLP, RwbEDHLP, and RwtOILETHLP, SwDRESSHLP,

SwWALKHLP, SwBATHEHLP, SweATHLP, SwBEDHLP, and SwTOILETHLP employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2, respondents can be asked up to 2 questions regarding help received for ADL activities. If the respondent is married or in a union, then the respondent is first asked: "Does your spouse help you?". All respondents are asked: "Does anyone (else) ever help you?". The variables in Waves 1 and 2 indicate help received from the respondent's spouse or someone else. Starting in Wave 3, only a single question is asked: "Does someone help you?". As such, starting in Wave 3, the variables indicate help received from anyone.

In Waves 1 and 2, respondents are only asked if they received help with an ADL activity if they reported that they had difficulty with, didn't do, or can't do the activity. Starting in Wave 3, all respondents are asked whether they received help with an ADL activity regardless of reporting difficulty with the activity. While these variables have been constructed to be as comparable as possible across waves, it is possible that those who reported having no difficulty with an ADL could receive help with the ADL and so would be assigned a value of 1 for these variables starting in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

These variables are somewhat comparable to RwWALKRH, RwDRESSH, RwBATHH, RweATH, RwbEDH, and RwTOILTH in the RAND HRS. Please keep in mind that no difficulty is assigned special missing .s and don't do is assigned special missing .x in the RAND HRS, while no difficulty is assigned special missing .x in the Harmonized MHAS. This difference and the difference in naming ensure comparability between the Harmonized MHAS and other Harmonized datasets.

Help received using the toilet includes getting on and off the toilet or squatting in RwTOILETHLP in the Harmonized MHAS, and only includes getting up or down from the toilet in RwTOILTH in the RAND HRS.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_1	difficult using toilet
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps

H19F	additional person helps
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet



<b>IADL Help</b>
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Wave	Variable	Label	Type
1	R1MEALHLP	r1mealhlp:w1 whether anyone helps R with meal preparation	Categ
2	R2MEALHLP	r2mealhlp:w2 whether anyone helps R with meal preparation	Categ
3	R3MEALHLP	r3mealhlp:w3 whether anyone helps R with meal preparation	Categ
4	R4MEALHLP	r4mealhlp:w4 whether anyone helps R with meal preparation	Categ
1	S1MEALHLP	s1mealhlp:w1 whether anyone helps S with meal preparation	Categ
2	S2MEALHLP	s2mealhlp:w2 whether anyone helps S with meal preparation	Categ
3	S3MEALHLP	s3mealhlp:w3 whether anyone helps S with meal preparation	Categ
4	S4MEALHLP	s4mealhlp:w4 whether anyone helps S with meal preparation	Categ
1	R1SHOPHLP	r1shophlp:w1 whether anyone helps R with grocery shopping	Categ
2	R2SHOPHLP	r2shophlp:w2 whether anyone helps R with grocery shopping	Categ
3	R3SHOPHLP	r3shophlp:w3 whether anyone helps R with grocery shopping	Categ
4	R4SHOPHLP	r4shophlp:w4 whether anyone helps R with grocery shopping	Categ
1	S1SHOPHLP	s1shophlp:w1 whether anyone helps S with grocery shopping	Categ
2	S2SHOPHLP	s2shophlp:w2 whether anyone helps S with grocery shopping	Categ
3	S3SHOPHLP	s3shophlp:w3 whether anyone helps S with grocery shopping	Categ
4	S4SHOPHLP	s4shophlp:w4 whether anyone helps S with grocery shopping	Categ
1	R1MEDHLP	r1medhlp:w1 whether anyone helps R with taking medication	Categ
2	R2MEDHLP	r2medhlp:w2 whether anyone helps R with taking medication	Categ
3	R3MEDHLP	r3medhlp:w3 whether anyone helps R with taking medication	Categ
4	R4MEDHLP	r4medhlp:w4 whether anyone helps R with taking medication	Categ
1	S1MEDHLP	s1medhlp:w1 whether anyone helps S with taking medication	Categ
2	S2MEDHLP	s2medhlp:w2 whether anyone helps S with taking medication	Categ
3	S3MEDHLP	s3medhlp:w3 whether anyone helps S with taking medication	Categ
4	S4MEDHLP	s4medhlp:w4 whether anyone helps S with taking medication	Categ
1	R1MONEYHLP	r1moneyhlp:w1 whether anyone helps R with managing money	Categ
2	R2MONEYHLP	r2moneyhlp:w2 whether anyone helps R with managing money	Categ
3	R3MONEYHLP	r3moneyhlp:w3 whether anyone helps R with managing money	Categ
4	R4MONEYHLP	r4moneyhlp:w4 whether anyone helps R with managing money	Categ
1	S1MONEYHLP	s1moneyhlp:w1 whether anyone helps S with managing money	Categ
2	S2MONEYHLP	s2moneyhlp:w2 whether anyone helps S with managing money	Categ
3	S3MONEYHLP	s3moneyhlp:w3 whether anyone helps S with managing money	Categ
4	S4MONEYHLP	s4moneyhlp:w4 whether anyone helps S with managing money	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MEALHLP	1103	0.83	0.38	0.00	1.00
R2MEALHLP	1015	0.84	0.36	0.00	1.00
R3MEALHLP	1253	0.70	0.46	0.00	1.00
R4MEALHLP	1241	0.77	0.42	0.00	1.00
S1MEALHLP	779	0.85	0.36	0.00	1.00
S2MEALHLP	720	0.78	0.41	0.00	1.00
S3MEALHLP	814	0.64	0.48	0.00	1.00
S4MEALHLP	712	0.70	0.46	0.00	1.00
R1SHOPHLP	1109	0.86	0.34	0.00	1.00
R2SHOPHLP	999	0.91	0.29	0.00	1.00
R3SHOPHLP	1519	0.82	0.39	0.00	1.00

R4SHOPHLP	1684	0.87	0.33	0.00	1.00
S1SHOPHLP	657	0.87	0.33	0.00	1.00
S2SHOPHLP	582	0.84	0.37	0.00	1.00
S3SHOPHLP	803	0.79	0.40	0.00	1.00
S4SHOPHLP	835	0.85	0.36	0.00	1.00
R1MEDHLP	356	0.84	0.36	0.00	1.00
R2MEDHLP	291	0.88	0.32	0.00	1.00
R3MEDHLP	502	0.53	0.50	0.00	1.00
R4MEDHLP	660	0.59	0.49	0.00	1.00
S1MEDHLP	185	0.87	0.34	0.00	1.00
S2MEDHLP	173	0.80	0.40	0.00	1.00
S3MEDHLP	292	0.48	0.50	0.00	1.00
S4MEDHLP	351	0.53	0.50	0.00	1.00
R1MONEYHLP	346	0.83	0.38	0.00	1.00
R2MONEYHLP	283	0.96	0.20	0.00	1.00
R3MONEYHLP	382	0.73	0.44	0.00	1.00
R4MONEYHLP	481	0.74	0.44	0.00	1.00
S1MONEYHLP	175	0.83	0.37	0.00	1.00
S2MONEYHLP	160	0.93	0.26	0.00	1.00
S3MONEYHLP	212	0.69	0.46	0.00	1.00
S4MONEYHLP	245	0.72	0.45	0.00	1.00

### Categorical Variable Codes

Value-----	R1MEALHLP	R2MEALHLP	R3MEALHLP	R4MEALHLP
.d:DK	49		2	6
.m:Missing	38	104		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	123	3	3	3
.x:no difficulty	12841	11420	13190	12560
0.No	188	158	372	291
1.Yes	915	857	881	950

Value-----	S1MEALHLP	S2MEALHLP	S3MEALHLP	S4MEALHLP
.d:DK	40		2	6
.m:Missing	13	12		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	103	2	2	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9053	8016	9048	8452
0.No	119	158	296	213
1.Yes	660	562	518	499

Value-----	R1SHOPHLP	R2SHOPHLP	R3SHOPHLP	R4SHOPHLP
.d:DK	37		3	6
.m:Missing	38	106		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	112	2	2	1
.x:no difficulty	12858	11435	12924	12119
0.No	151	94	276	213
1.Yes	958	905	1243	1471

Value-----	S1SHOPHLP	S2SHOPHLP	S3SHOPHLP	S4SHOPHLP
.d:DK	28		1	6
.m:Missing	13	8		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	83	2		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9207	8158	9062	8331

0.No	83	92	165	128
1.Yes	574	490	638	707
Value-----	R1MEDHLP	R2MEDHLP	R3MEDHLP	R4MEDHLP
.d:DK	20		1	6
.m:Missing	38	57		40
.p:Proxy interview, not asked	1032	1162	1275	929
.r:Refuse	48	1	1	1
.x:no difficulty	13692	12193	13944	13143
0.No	56	34	235	269
1.Yes	300	257	267	391
Value-----	S1MEDHLP	S2MEDHLP	S3MEDHLP	S4MEDHLP
.d:DK	13		1	6
.m:Missing	13	8		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	32	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9745	8568	9573	8815
0.No	24	34	151	165
1.Yes	161	139	141	186
Value-----	R1MONEYHLP	R2MONEYHLP	R3MONEYHLP	R4MONEYHLP
.d:DK	21		8	7
.m:Missing	38	53		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	56	2	2	1
.x:no difficulty	13693	12205	14056	13321
0.No	60	12	102	124
1.Yes	286	271	280	357
Value-----	S1MONEYHLP	S2MONEYHLP	S3MONEYHLP	S4MONEYHLP
.d:DK	14		4	5
.m:Missing	13	11		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	39	2		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9747	8577	9650	8922
0.No	29	12	65	69
1.Yes	146	148	147	176

## How Constructed

RwMEALHLP, RwsHOPHLP, RwmEDHLP, and RwmONEYHLP indicate whether anyone helps the respondent with each IADL. RwMEALHLP indicates whether respondents who have difficulty with meal preparation have anyone help them prepare hot meals. RwsHOPHLP indicates whether respondents who have difficulty with grocery shopping have anyone help them shop for groceries. RwmEDHLP indicates whether respondents who have difficulty with taking medications have anyone help them with taking medications. RwmONEYHLP indicates whether respondents who have difficulty managing money have anyone help them manage their money. Respondents who report that they have difficulty with, "can't do", or "don't do" an IADL activity are asked whether they receive help with the IADL. These variables are coded as 1 if someone helps the respondent with the IADL, while a 0 indicates that nobody helps the respondent with the IADL. Respondents who do not have difficulty with a particular IADL are assigned special missing value code .x. These variables are assigned special missing value .p if the interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwMEALHLP, RwsHOPHLP, RwmEDHLP, and RwmONEYHLP are set to plain missing (.) for respondents who did not participate in the current wave.

SwMEALHLP, SwsHOPHLP, SwmEDHLP, and SwmONEYHLP indicate whether anyone helps the respondent's current wave's spouse with the associated IADL. These values are taken from RwMEALHLP, RwsHOPHLP, RwmEDHLP, and RwmONEYHLP. In addition to the special missing codes employed by RwMEALHLP, RwsHOPHLP, RwmEDHLP, and RwmONEYHLP, SwMEALHLP, SwsHOPHLP, SwmEDHLP, and SwmONEYHLP employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In waves 1 and 2, the respondent is asked in separate questions whether their spouse helps with the IADL activity and whether anyone (else) ever helps with the IADL activity. Starting in wave 3, the respondent is asked in a single question whether anyone ever helps with the IADL activity.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include using the phone and using a map as IADLs. In the HRS, if the respondent reports that they "can't do" or "don't do" the activity or if they have difficulty that is not the result of a health or memory problem, then they are not asked whether they receive help with that activity. Respondents in the MHAS, however, are asked whether they receive help with the activity if they report that they "can't do", "don't do", or have difficulty with the activity, regardless of whether it is the result of a health or memory problem.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money

### Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money

<b>Whether Uses Personal Aids</b>
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Wave	Variable	Label	Type
1	R1WALKRE	r1walkre: w1 R uses equipment-Walking across room	Categ
2	R2WALKRE	r2walkre: w2 R uses equipment-Walking across room	Categ
3	R3WALKRE	r3walkre: w3 R uses equipment-Walking across room	Categ
4	R4WALKRE	r4walkre: w4 R uses equipment-Walking across room	Categ
1	S1WALKRE	s1walkre: w1 S uses equipment-Walking across room	Categ
2	S2WALKRE	s2walkre: w2 S uses equipment-Walking across room	Categ
3	S3WALKRE	s3walkre: w3 S uses equipment-Walking across room	Categ
4	S4WALKRE	s4walkre: w4 S uses equipment-Walking across room	Categ
1	R1BEDE	r1bede:w1 R uses equipment-Getting in/out of bed	Categ
2	R2BEDE	r2bede:w2 R uses equipment-Getting in/out of bed	Categ
3	R3BEDE	r3bede:w3 R uses equipment-Getting in/out of bed	Categ
4	R4BEDE	r4bede:w4 R uses equipment-Getting in/out of bed	Categ
1	S1BEDE	s1bede:w1 S uses equipment-Getting in/out of bed	Categ
2	S2BEDE	s2bede:w2 S uses equipment-Getting in/out of bed	Categ
3	S3BEDE	s3bede:w3 S uses equipment-Getting in/out of bed	Categ
4	S4BEDE	s4bede:w4 S uses equipment-Getting in/out of bed	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKRE	7955	0.08	0.27	0.00	1.00
R2WALKRE	7231	0.09	0.29	0.00	1.00
R3WALKRE	9918	0.13	0.34	0.00	1.00
R4WALKRE	9800	0.17	0.38	0.00	1.00
S1WALKRE	5230	0.06	0.24	0.00	1.00
S2WALKRE	4763	0.07	0.25	0.00	1.00
S3WALKRE	6257	0.10	0.30	0.00	1.00
S4WALKRE	6052	0.12	0.33	0.00	1.00
R1BEDE	7880	0.05	0.22	0.00	1.00
R2BEDE	7230	0.05	0.23	0.00	1.00
R3BEDE	9915	0.07	0.25	0.00	1.00
R4BEDE	9797	0.09	0.29	0.00	1.00
S1BEDE	5184	0.04	0.19	0.00	1.00
S2BEDE	4762	0.04	0.19	0.00	1.00
S3BEDE	6255	0.05	0.21	0.00	1.00
S4BEDE	6049	0.06	0.24	0.00	1.00

### Categorical Variable Codes

Value-----	R1WALKRE	R2WALKRE	R3WALKRE	R4WALKRE
.d:DK	38	1	31	6
.m:Missing	40	47		40
.r:Refuse	139	5	2	1
.x:no difficulty	7014	6420	5772	4932
0.No	7306	6553	8606	8094
1.Yes	649	678	1312	1706

Value-----	S1WALKRE	S2WALKRE	S3WALKRE	S4WALKRE
.d:DK	22	1	25	5
.m:Missing	14	23		10

.r:Refuse	90	3	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	5292	4774	4309	3585
0.No	4915	4432	5653	5303
1.Yes	315	331	604	749
Value-----	R1BEDE	R2BEDE	R3BEDE	R4BEDE
.d:DK	43	1	32	6
.m:Missing	40	47		40
.r:Refuse	149	5	4	2
.x:no difficulty	7074	6421	5772	4934
0.No	7473	6843	9249	8923
1.Yes	407	387	666	874
Value-----	S1BEDE	S2BEDE	S3BEDE	S4BEDE
.d:DK	25	1	26	5
.m:Missing	14	23		10
.r:Refuse	96	3	1	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	5329	4775	4310	3587
0.No	4991	4580	5953	5671
1.Yes	193	182	302	378

## How Constructed

RwWALKRE and RwBEDE indicate whether the respondent uses any equipment or devices, such as a cane, walker, or wheelchair, to walk across a room or to get in and out of bed, respectively. These questions are asked regardless of difficulty with walking across a room or getting in and out of bed. These variables are coded as 1 if the respondent uses any equipment or devices to help with the ADL. These variables are coded as 0 if the respondent does not use any equipment or devices to help with the ADL despite having difficulty with the ADL. If the respondent indicates having no difficulty with the ADL or with other mobility tasks that precede the ADL questions in the interview, then RwWALKRE and RwBEDE are assigned special missing value .x. 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 (.) for respondents who did not participate in the current wave.

SwWALKRE and SwBEDE indicate whether the respondent's current wave's spouse uses any equipment or devices to walk across a room or to get in and out of bed, respectively. These values are taken from RwWALKRE and RwBEDE. In addition to the special missing codes employed by RwWALKRE and RwBEDE, SwWALKRE and SwDRESSE employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

These variables are somewhat comparable to RwWALKRE and RwBEDE in the RAND HRS. Please keep in mind that no difficulty is assigned special missing .s and don't do is assigned a value of 9 in the RAND HRS, while no difficulty is assigned special missing .x in the Harmonized MHAS. This difference and the difference in naming ensure comparability between the Harmonized MHAS and other Harmonized datasets.

## MHAS Variables Used

Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing

H15\_1 difficult walking  
 H15\_2 help walking  
 H18\_1 difficult getting in an out of bed  
 H18\_2 help getting in an out of bed  
 H4 sitting 2 hours  
 H5 getting up  
 H6 long climbing  
 H7 short climbing  
 H8 bending  
 H9 extending arms

## Wave 2:

H1 health problems-trouble walking blocks  
 H10 health problems-trouble pushing or pulling  
 H11 health problems-trouble carrying objects  
 H12 health problems-trouble picking up a coin  
 H13 health problems-trouble dressing self  
 H15A health problem-trouble walking  
 H15B use equipment to walk  
 H18A health problem-get in/out of bed  
 H18B use equipment to get in/out of bed  
 H4 health problems-trouble staying seated  
 H5 health problems-trouble getting up from chair  
 H6 health problems-trouble with flights of stairs  
 H7 health problems-trouble with 1 flight of stairs  
 H8 health problems-trouble sitting up  
 H9 health problems-trouble lifting arms

## Wave 3:

H11\_12 Because of health problem, difficulty carrying objects  
 H12\_12 Because of health problem, difficulty picking up a coin  
 H13\_12 Because of health problem, difficulty dressing self  
 H15A\_12 Because of health problem, difficulty walking  
 H15B\_12 You use equipment to walk  
 H18A\_12 Because of health problem, difficulty get in/out of bed  
 H18B\_12 You use equipment to get in/out of bed  
 H1\_12 Because of health problem, difficulty walking blocks  
 H4\_12 Because of health problem, difficulty staying seated  
 H5\_12 Because of health problem, difficulty getting up from c  
 H6\_12 Because of health problem, difficulty with flights of s  
 H7\_12 Because of health problem, difficulty with 1 flight of  
 H8\_12 Because of health problem, difficulty sitting up  
 H9\_12 Because of health problem, difficulty lifting arms

## Wave 4:

H11\_15 Because of health problem, does respondent have difficu  
 H12\_15 Because of health problem, does respondent have difficu  
 H13\_15 Because of health problem, does respondent have difficu  
 H15A\_15 Because of health problem, does respondent have any dif  
 H15B\_15 Does respondent ever use equipment (to walk across a ro  
 H18A\_15 Because of health problem, does respondent have any dif  
 H18B\_15 Does respondent ever use equipment (to get in or out of  
 H1\_15 Because of health problem, does respondent have difficu  
 H4\_15 Because of health problem, does respondent have difficu  
 H5\_15 Because of health problem, does respondent have difficu  
 H6\_15 Because of health problem, does respondent have difficu  
 H7\_15 Because of health problem, does respondent have difficu  
 H8\_15 Because of health problem, does respondent have difficu  
 H9\_15 Because of health problem, does respondent have difficu

<b>Future ADL Help</b>
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Wave	Variable	Label	Type
3	R3FTRHLP	r3ftrhlp:w3 anyone able to help R with future adl needs	Categ
4	R4FTRHLP	r4ftrhlp:w4 anyone able to help R with future adl needs	Categ
3	S3FTRHLP	s3ftrhlp:w3 anyone able to help S with future adl needs	Categ
4	S4FTRHLP	s4ftrhlp:w4 anyone able to help S with future adl needs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3FTRHLP	14073	0.62	0.49	0.00	1.00
R4FTRHLP	13718	0.60	0.49	0.00	1.00
S3FTRHLP	9732	0.61	0.49	0.00	1.00
S4FTRHLP	9309	0.59	0.49	0.00	1.00

### Categorical Variable Codes

Value	R3FTRHLP	R4FTRHLP
.d:DK	703	578
.m:Missing		34
.p:Proxy interview, not asked	923	592
.r:Refuse	24	11
0.No	5352	5457
1.Yes	8721	8261

Value	S3FTRHLP	S4FTRHLP
.d:DK	474	391
.m:Missing		4
.p:Proxy interview, not asked	368	134
.r:Refuse	18	8
.u:Unmar	4782	4844
.v:SP NR	349	89
0.No	3834	3784
1.Yes	5898	5525

### How Constructed

RwFTRHLP indicates whether, supposing in the future the respondent needed help with basic personal care activities like eating or dressing (i.e. ADL), they have relatives or friends who could and would be willing to help them over a long period with said needs. RwFTRHLP is coded as 1 if the respondent would have someone who could and would help them in the future if need be, while a 0 indicates they do not have anyone. RwFTRHLP is assigned special missing value .p if this question is not asked because this section was answered by proxy. Don't know, refused, or other missing responses are assigned special missing values codes .d, .r, and .m, respectively. RwFTRHLP is set to plain missing (.) for respondents who did not participate in the current wave.

SwFTRHLP indicates whether the respondent's current wave's spouse has someone who could help with future ADL needs, and is taken from RwFTRHLP. In addition to the special missing codes employed by RwFTRHLP, SwFTRHLP employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

This question is asked starting in wave 3.



## Differences with the RAND HRS/Harmonized HRS

The HRS asks whether the respondent has any relative or friends besides a spouse who would be able to help, while the MHAS asks whether the respondent has any relative or friends who would be able to help, and makes no distinctions about a spouse.

The HRS only asks this question if the respondent does not already receive help with personal care (ADL) needs, those currently receiving help are assigned special missing .h in RwfTRHLP in the Harmonized HRS. This question is asked of everyone in the MHAS. Unlike the HRS, the MHAS does not ask who would be able to help in the future.

## MHAS Variables Used

Wave 3:

G33_12	In the future:Will respondent...from family/friends with
TIPENTG_12	Type of interview section G 2012

Wave 4:

G33_15	In the future:Will respondent from family/friends with
TIPENTG_15	Type of interview Section G 2015

### Activities of Daily Living: Whether Receives Any Care

Wave	Variable	Label	Type
1	R1RACANY	r1racany:w1 R receives any care for ADLs	Categ
2	R2RACANY	r2racany:w2 R receives any care for ADLs	Categ
3	R3RACANY	r3racany:w3 R receives any care for ADLs	Categ
4	R4RACANY	r4racany:w4 R receives any care for ADLs	Categ
1	S1RACANY	s1racany:w1 S receives any care for ADLs	Categ
2	S2RACANY	s2racany:w2 S receives any care for ADLs	Categ
3	S3RACANY	s3racany:w3 S receives any care for ADLs	Categ
4	S4RACANY	s4racany:w4 S receives any care for ADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RACANY	1653	0.47	0.50	0.00	1.00
R2RACANY	1527	0.52	0.50	0.00	1.00
R3RACANY	2957	0.40	0.49	0.00	1.00
R4RACANY	3012	0.43	0.50	0.00	1.00
S1RACANY	980	0.47	0.50	0.00	1.00
S2RACANY	866	0.53	0.50	0.00	1.00
S3RACANY	1682	0.34	0.47	0.00	1.00
S4RACANY	1650	0.39	0.49	0.00	1.00

### Categorical Variable Codes

Value-----	R1RACANY	R2RACANY	R3RACANY	R4RACANY
.d:DK	1		1	6
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	873	738	1785	1715
1.Yes	780	789	1172	1297

Value-----	S1RACANY	S2RACANY	S3RACANY	S4RACANY
.d:DK			1	5
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	524	409	1107	1012
1.Yes	456	457	575	638

### How Constructed

RwRACANY indicates whether the respondent receives any care for difficulties with activities of daily living (ADL). If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. RwRACANY is assigned a value of 0 if the respondent has difficulty with at least one ADL but receives no help with the activity. RwRACANY is assigned a value of 1 if the respondent has difficulty with at least one ADL and someone helps with at least one of the activities. RwRACANY is assigned special missing value .x if the respondent has no difficulty with any ADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRACANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRACANY indicates whether the respondent's current wave's spouse receives any care for difficulties with ADLs, and its values are taken from RWRACANY. In addition to the special missing codes employed by RWRACANY, SwRACANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

#### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

#### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps

#### Wave 3:

H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off

#### Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet

### Activities of Daily Living: Whether Receives Any Informal Care

Wave	Variable	Label	Type
1	R1RACAANY	r1racaany:w1 R receives any informal care for ADLs	Categ
2	R2RACAANY	r2racaany:w2 R receives any informal care for ADLs	Categ
3	R3RACAANY	r3racaany:w3 R receives any informal care for ADLs	Categ
4	R4RACAANY	r4racaany:w4 R receives any informal care for ADLs	Categ
1	S1RACAANY	s1racaany:w1 S receives any informal care for ADLs	Categ
2	S2RACAANY	s2racaany:w2 S receives any informal care for ADLs	Categ
3	S3RACAANY	s3racaany:w3 S receives any informal care for ADLs	Categ
4	S4RACAANY	s4racaany:w4 S receives any informal care for ADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RACAANY	1653	0.41	0.49	0.00	1.00
R2RACAANY	1527	0.01	0.11	0.00	1.00
R3RACAANY	2957	0.35	0.48	0.00	1.00
R4RACAANY	3012	0.37	0.48	0.00	1.00
S1RACAANY	980	0.41	0.49	0.00	1.00
S2RACAANY	866	0.00	0.03	0.00	1.00
S3RACAANY	1682	0.28	0.45	0.00	1.00
S4RACAANY	1650	0.31	0.46	0.00	1.00

### Categorical Variable Codes

Value-----	R1RACAANY	R2RACAANY	R3RACAANY	R4RACAANY
.d:DK	1		1	6
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	969	1509	1926	1912
1.Yes	684	18	1031	1100

Value-----	S1RACAANY	S2RACAANY	S3RACAANY	S4RACAANY
.d:DK			1	5
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	581	865	1208	1133
1.Yes	399	1	474	517

### How Constructed

RwRACAANY indicates whether the respondent receives any informal care for difficulties with activities of daily living (ADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The following relationships are considered to provide informal care: spouse, child, child-in-law, grandchild, parent, other relative, other person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is

"spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRACAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL but receives no help with the activity from an informal caregiver, or does not receive any help at all. RwRACAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL and an informal caregiver helps with at least one of the activities. RwRACAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRACAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRACAANY indicates whether the respondent's current wave's spouse receives any informal care for difficulties with ADLs, and its values are taken from RwRACAANY. In addition to the special missing codes employed by RwRACAANY, SwRACAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible in the Harmonized HRS and Harmonized MHAS.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps

H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs

H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helpe
H25_2_15	Number of hours during those days that the person helpe
H25_3_15	Number of hours during those days that the person helpe
H25_4_15	Number of hours during those days that the person helpe
H25_5_15	Number of hours during those days that the person helpe
H25_6_15	Number of hours during those days that the person helpe
H25_7_15	Number of hours during those days that the person helpe
H25_8_15	Number of hours during those days that the person helpe

<b>Activities of Daily Living: Receives Informal Care from Spouse</b>
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Wave	Variable	Label	Type
1	R1RASCARE	r1rascare:w1 R receives informal care from spouse for ADLs	Categ
2	R2RASCARE	r2rascare:w2 R receives informal care from spouse for ADLs	Categ
3	R3RASCARE	r3rascare:w3 R receives informal care from spouse for ADLs	Categ
4	R4RASCARE	r4rascare:w4 R receives informal care from spouse for ADLs	Categ
1	S1RASCARE	s1rascare:w1 S receives informal care from spouse for ADLs	Categ
2	S2RASCARE	s2rascare:w2 S receives informal care from spouse for ADLs	Categ
3	S3RASCARE	s3rascare:w3 S receives informal care from spouse for ADLs	Categ
4	S4RASCARE	s4rascare:w4 S receives informal care from spouse for ADLs	Categ
2	R2RASCAREDPM	r2rascaredpm:w2 days/month spouse helps R with ADLs	Cont
3	R3RASCAREDPM	r3rascaredpm:w3 days/month spouse helps R with ADLs	Cont
4	R4RASCAREDPM	r4rascaredpm:w4 days/month spouse helps R with ADLs	Cont
2	S2RASCAREDPM	s2rascaredpm:w2 days/month spouse helps S with ADLs	Cont
3	S3RASCAREDPM	s3rascaredpm:w3 days/month spouse helps S with ADLs	Cont
4	S4RASCAREDPM	s4rascaredpm:w4 days/month spouse helps S with ADLs	Cont
2	R2RASCAREDPMM	r2rascaredpmm:w2 R # spouse missing days of help for ADLs	Cont
3	R3RASCAREDPMM	r3rascaredpmm:w3 R # spouse missing days of help for ADLs	Cont
4	R4RASCAREDPMM	r4rascaredpmm:w4 R # spouse missing days of help for ADLs	Cont
2	S2RASCAREDPMM	s2rascaredpmm:w2 S # spouse missing days of help for ADLs	Cont
3	S3RASCAREDPMM	s3rascaredpmm:w3 S # spouse missing days of help for ADLs	Cont
4	S4RASCAREDPMM	s4rascaredpmm:w4 S # spouse missing days of help for ADLs	Cont
2	R2RASCAREHR	r2rascarehr:w2 hours/day spouse helps R with ADLs	Cont
3	R3RASCAREHR	r3rascarehr:w3 hours/day spouse helps R with ADLs	Cont
4	R4RASCAREHR	r4rascarehr:w4 hours/day spouse helps R with ADLs	Cont
2	S2RASCAREHR	s2rascarehr:w2 hours/day spouse helps S with ADLs	Cont
3	S3RASCAREHR	s3rascarehr:w3 hours/day spouse helps S with ADLs	Cont
4	S4RASCAREHR	s4rascarehr:w4 hours/day spouse helps S with ADLs	Cont
2	R2RASCAREHRM	r2rascarehrm:w2 R # spouse missing hours of help for ADLs	Cont
3	R3RASCAREHRM	r3rascarehrm:w3 R # spouse missing hours of help for ADLs	Cont
4	R4RASCAREHRM	r4rascarehrm:w4 R # spouse missing hours of help for ADLs	Cont
2	S2RASCAREHRM	s2rascarehrm:w2 S # spouse missing hours of help for ADLs	Cont
3	S3RASCAREHRM	s3rascarehrm:w3 S # spouse missing hours of help for ADLs	Cont
4	S4RASCAREHRM	s4rascarehrm:w4 S # spouse missing hours of help for ADLs	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RASCARE	780	0.45	0.50	0.00	1.00
R2RASCARE	789	0.00	0.04	0.00	1.00
R3RASCARE	1172	0.25	0.43	0.00	1.00
R4RASCARE	1297	0.25	0.43	0.00	1.00
S1RASCARE	456	0.75	0.43	0.00	1.00
S2RASCARE	457	0.00	0.05	0.00	1.00
S3RASCARE	575	0.50	0.50	0.00	1.00
S4RASCARE	638	0.50	0.50	0.00	1.00
R2RASCAREDPM	789	0.04	1.07	0.00	30.00



R3RASCAREDPM	1172	5.89	11.49	0.00	30.00
R4RASCAREDPM	1295	5.22	10.80	0.00	30.00
S2RASCAREDPM	457	0.07	1.40	0.00	30.00
S3RASCAREDPM	575	11.76	13.96	0.00	30.00
S4RASCAREDPM	636	10.32	13.34	0.00	30.00
R2RASCAREDPMM	789	0.00	0.00	0.00	0.00
R3RASCAREDPMM	1172	0.00	0.00	0.00	0.00
R4RASCAREDPMM	1297	0.00	0.04	0.00	1.00
S2RASCAREDPMM	457	0.00	0.00	0.00	0.00
S3RASCAREDPMM	575	0.00	0.00	0.00	0.00
S4RASCAREDPMM	638	0.00	0.06	0.00	1.00
R2RASCAREHR	789	0.01	0.18	0.00	5.00
R3RASCAREHR	1170	2.67	6.73	0.00	24.00
R4RASCAREHR	1295	1.51	4.01	0.00	24.00
S2RASCAREHR	457	0.01	0.23	0.00	5.00
S3RASCAREHR	573	5.36	8.77	0.00	24.00
S4RASCAREHR	636	2.97	5.21	0.00	24.00
R2RASCAREHRM	789	0.00	0.00	0.00	0.00
R3RASCAREHRM	1172	0.00	0.04	0.00	1.00
R4RASCAREHRM	1297	0.00	0.04	0.00	1.00
S2RASCAREHRM	457	0.00	0.00	0.00	0.00
S3RASCAREHRM	575	0.00	0.06	0.00	1.00
S4RASCAREHRM	638	0.00	0.06	0.00	1.00

## Categorical Variable Codes

Value-----	R1RASCARE	R2RASCARE	R3RASCARE	R4RASCARE
.d:DK	1		1	6
.h:no help received	873	738	1785	1715
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	432	788	878	971
1.Yes	348	1	294	326

Value-----	S1RASCARE	S2RASCARE	S3RASCARE	S4RASCARE
.d:DK			1	5
.h:no help received	524	409	1107	1012
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	112	456	288	321
1.Yes	344	1	287	317

## How Constructed

The following variables indicate whether the respondent's spouse helps the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in

defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRASCARE, RwRASCAREDPM, RwRASCAREDPMM, RwRASCAREHR, and RwRASCAREHRM include help from the respondent's spouse.

RwRASCARE indicates whether the respondent's spouse helps the respondent with any ADL needs. RwRASCARE is coded as 0 if the respondent receives no assistance from their spouse; and is coded as 1 if the respondent does receive help from their spouse.

RwRASCAREDPM indicates the number of days in the last month the respondent's spouse helped the respondent with ADL needs. If the respondent reports receiving help every day from their spouse, then a value of 30 is assumed. RwRASCAREDPM is assigned a value of 0 if the respondent did not receive help from their spouse. RwRASCAREDPMM indicates whether no value of days was reported for their spouse helper and so was not accounted for in RwRASCAREDPM. RwRASCAREDPMM is assigned special missing value .m if the respondent was not helped by their spouse. RwRASCAREDPM and RwRASCAREDPMM are not available in wave 1.

RwRASCAREHR indicates the number of hours per day the respondent's spouse helps the respondent with any ADL needs on the days that the respondent receives help. Respondents are asked, on days their spouse helps with a particular ADL need, how many hours per day their spouse helps. If the respondent reports less than an hour for their spouse, then a 1 is assumed. RwRASCAREHR is assigned a value of 0 if the respondent did not receive help from their spouse. RwRASCAREHRM indicates whether no value of hours was reported for their spouse helper and so was not accounted for in RwRASCAREHR. RwRASCAREHRM is assigned special missing value .m if the respondent was not helped by their spouse. RwRASCAREHR and RwRASCAREHRM are not available in wave 1.

SwRASCARE, SwRASCAREDPM, and SwRASCAREHR indicate whether and the frequency with which the respondent's current wave's spouse receives help from the respondent, and their values are taken from RwRASCARE, RwRASCAREDPM, and RwRASCAREHR. SwRASCAREDPMM and SwRASCAREHRM indicate whether or not a value was reported for the number of days and hours the respondent's current spouse was helped by the respondent and are taken from RwRASCAREDPMM and RwRASCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## **Cross Wave Differences in MHAS**

The respondent is asked the number of days per month and hours per day the respondent receives help from their spouse starting in wave 2.

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## **Differences with the RAND HRS/Harmonized HRS**

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. These variables in the Harmonized HRS include help provided by the respondent's spouse or former spouse, whereas these variables only include help provided by the respondent's spouse in the Harmonized MHAS.

RwRASCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRASCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps

### Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days

### Wave 3:

H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs

H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helped
H25_2_15	Number of hours during those days that the person helped
H25_3_15	Number of hours during those days that the person helped
H25_4_15	Number of hours during those days that the person helped
H25_5_15	Number of hours during those days that the person helped
H25_6_15	Number of hours during those days that the person helped
H25_7_15	Number of hours during those days that the person helped
H25_8_15	Number of hours during those days that the person helped

<b>Activities of Daily Living: Receives Informal Care from Children or Grandchildren</b>
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Wave	Variable	Label	Type
1	R1RACCARE	r1raccare:w1 R receives informal care from kids/grandkids fo	Categ
2	R2RACCARE	r2raccare:w2 R receives informal care from kids/grandkids fo	Categ
3	R3RACCARE	r3raccare:w3 R receives informal care from kids/grandkids fo	Categ
4	R4RACCARE	r4raccare:w4 R receives informal care from kids/grandkids fo	Categ
1	S1RACCARE	s1raccare:w1 S receives informal care from kids/grandkids fo	Categ
2	S2RACCARE	s2raccare:w2 S receives informal care from kids/grandkids fo	Categ
3	S3RACCARE	s3raccare:w3 S receives informal care from kids/grandkids fo	Categ
4	S4RACCARE	s4raccare:w4 S receives informal care from kids/grandkids fo	Categ
1	R1RACCAREN	r1raccaren:w1 # kids/grandkids who help R with ADLs	Cont
2	R2RACCAREN	r2raccaren:w2 # kids/grandkids who help R with ADLs	Cont
3	R3RACCAREN	r3raccaren:w3 # kids/grandkids who help R with ADLs	Cont
4	R4RACCAREN	r4raccaren:w4 # kids/grandkids who help R with ADLs	Cont
1	S1RACCAREN	s1raccaren:w1 # kids/grandkids who help S with ADLs	Cont
2	S2RACCAREN	s2raccaren:w2 # kids/grandkids who help S with ADLs	Cont
3	S3RACCAREN	s3raccaren:w3 # kids/grandkids who help S with ADLs	Cont
4	S4RACCAREN	s4raccaren:w4 # kids/grandkids who help S with ADLs	Cont
1	R1RACCAREDPM	r1raccaredpm:w1 days/month kids/grandkids help R with ADLs	Cont
2	R2RACCAREDPM	r2raccaredpm:w2 days/month kids/grandkids help R with ADLs	Cont
3	R3RACCAREDPM	r3raccaredpm:w3 days/month kids/grandkids help R with ADLs	Cont
4	R4RACCAREDPM	r4raccaredpm:w4 days/month kids/grandkids help R with ADLs	Cont
1	S1RACCAREDPM	s1raccaredpm:w1 days/month kids/grandkids help S with ADLs	Cont
2	S2RACCAREDPM	s2raccaredpm:w2 days/month kids/grandkids help S with ADLs	Cont
3	S3RACCAREDPM	s3raccaredpm:w3 days/month kids/grandkids help S with ADLs	Cont
4	S4RACCAREDPM	s4raccaredpm:w4 days/month kids/grandkids help S with ADLs	Cont
1	R1RACCAREDPMM	r1raccaredpmm:w1 R # kids/grandkids missing days of help for	Cont
2	R2RACCAREDPMM	r2raccaredpmm:w2 R # kids/grandkids missing days of help for	Cont
3	R3RACCAREDPMM	r3raccaredpmm:w3 R # kids/grandkids missing days of help for	Cont
4	R4RACCAREDPMM	r4raccaredpmm:w4 R # kids/grandkids missing days of help for	Cont
1	S1RACCAREDPMM	s1raccaredpmm:w1 S # kids/grandkids missing days of help for	Cont
2	S2RACCAREDPMM	s2raccaredpmm:w2 S # kids/grandkids missing days of help for	Cont
3	S3RACCAREDPMM	s3raccaredpmm:w3 S # kids/grandkids missing days of help for	Cont
4	S4RACCAREDPMM	s4raccaredpmm:w4 S # kids/grandkids missing days of help for	Cont
1	R1RACCAREHR	r1raccarehr:w1 hours/day kids/grandkids help R with ADLs	Cont
2	R2RACCAREHR	r2raccarehr:w2 hours/day kids/grandkids help R with ADLs	Cont
3	R3RACCAREHR	r3raccarehr:w3 hours/day kids/grandkids help R with ADLs	Cont
4	R4RACCAREHR	r4raccarehr:w4 hours/day kids/grandkids help R with ADLs	Cont
1	S1RACCAREHR	s1raccarehr:w1 hours/day kids/grandkids help S with ADLs	Cont
2	S2RACCAREHR	s2raccarehr:w2 hours/day kids/grandkids help S with ADLs	Cont
3	S3RACCAREHR	s3raccarehr:w3 hours/day kids/grandkids help S with ADLs	Cont
4	S4RACCAREHR	s4raccarehr:w4 hours/day kids/grandkids help S with ADLs	Cont
1	R1RACCAREHRM	r1raccarehrm:w1 R # kids/grandkids missing hours of help for	Cont
2	R2RACCAREHRM	r2raccarehrm:w2 R # kids/grandkids missing hours of help for	Cont
3	R3RACCAREHRM	r3raccarehrm:w3 R # kids/grandkids missing hours of help for	Cont
4	R4RACCAREHRM	r4raccarehrm:w4 R # kids/grandkids missing hours of help for	Cont
1	S1RACCAREHRM	s1raccarehrm:w1 S # kids/grandkids missing hours of help for	Cont
2	S2RACCAREHRM	s2raccarehrm:w2 S # kids/grandkids missing hours of help for	Cont

3 S3RACCAREHRM s3raccarehrm:w3 S # kids/grandkids missing hours of help for Cont  
 4 S4RACCAREHRM s4raccarehrm:w4 S # kids/grandkids missing hours of help for Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RACCARE	780	0.55	0.50	0.00	1.00
R2RACCARE	789	0.02	0.14	0.00	1.00
R3RACCARE	1172	0.58	0.49	0.00	1.00
R4RACCARE	1297	0.56	0.50	0.00	1.00
S1RACCARE	456	0.43	0.50	0.00	1.00
S2RACCARE	457	0.00	0.00	0.00	0.00
S3RACCARE	575	0.39	0.49	0.00	1.00
S4RACCARE	638	0.39	0.49	0.00	1.00
R1RACCAREN	780	0.89	1.16	0.00	12.00
R2RACCAREN	789	0.04	0.38	0.00	7.00
R3RACCAREN	1172	0.80	0.90	0.00	8.00
R4RACCAREN	1297	0.79	0.93	0.00	8.00
S1RACCAREN	456	0.70	1.04	0.00	8.00
S2RACCAREN	457	0.00	0.00	0.00	0.00
S3RACCAREN	575	0.54	0.85	0.00	6.00
S4RACCAREN	638	0.53	0.87	0.00	8.00
R1RACCAREDPM	780	21.95	31.72	0.00	360.00
R2RACCAREDPM	789	0.99	8.42	0.00	120.00
R3RACCAREDPM	1168	17.83	22.55	0.00	178.00
R4RACCAREDPM	1295	16.21	21.06	0.00	210.00
S1RACCAREDPM	456	16.78	26.35	0.00	150.00
S2RACCAREDPM	457	0.00	0.00	0.00	0.00
S3RACCAREDPM	572	10.81	19.30	0.00	150.00
S4RACCAREDPM	637	10.16	16.88	0.00	92.00
R1RACCAREDPMM	780	0.00	0.00	0.00	0.00
R2RACCAREDPMM	789	0.00	0.00	0.00	0.00
R3RACCAREDPMM	1172	0.01	0.07	0.00	1.00
R4RACCAREDPMM	1297	0.01	0.08	0.00	2.00
S1RACCAREDPMM	456	0.00	0.00	0.00	0.00
S2RACCAREDPMM	457	0.00	0.00	0.00	0.00
S3RACCAREDPMM	575	0.01	0.07	0.00	1.00
S4RACCAREDPMM	638	0.00	0.04	0.00	1.00
R1RACCAREHR	780	4.79	8.23	0.00	80.00
R2RACCAREHR	789	0.24	2.74	0.00	56.00
R3RACCAREHR	1164	7.45	11.16	0.00	90.00
R4RACCAREHR	1293	4.92	9.21	0.00	168.00
S1RACCAREHR	456	3.36	7.39	0.00	80.00
S2RACCAREHR	457	0.00	0.00	0.00	0.00
S3RACCAREHR	570	4.16	9.37	0.00	90.00
S4RACCAREHR	636	2.64	5.51	0.00	55.00
R1RACCAREHRM	780	0.00	0.00	0.00	0.00
R2RACCAREHRM	789	0.00	0.00	0.00	0.00
R3RACCAREHRM	1172	0.01	0.13	0.00	3.00
R4RACCAREHRM	1297	0.01	0.14	0.00	4.00
S1RACCAREHRM	456	0.00	0.00	0.00	0.00

S2RACCAREHRM	457	0.00	0.00	0.00	0.00
S3RACCAREHRM	575	0.01	0.15	0.00	3.00
S4RACCAREHRM	638	0.00	0.06	0.00	1.00

## Categorical Variable Codes

Value-----	R1RACCARE	R2RACCARE	R3RACCARE	R4RACCARE
.d:DK	1		1	6
.h:no help received	873	738	1785	1715
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	351	773	495	570
1.Yes	429	16	677	727

Value-----	S1RACCARE	S2RACCARE	S3RACCARE	S4RACCARE
.d:DK			1	5
.h:no help received	524	409	1107	1012
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	259	457	352	387
1.Yes	197		223	251

## How Constructed

The following variables indicate whether the respondent's children or grandchildren help the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRACCARE, RwRACCAREN, RwRACCAREDPM, RwRACCAREDPMM, RwRACCAREHR, and RwRACCAREHRM include help from a child, child-in-law, or grandchild.

RwRACCARE indicates whether any of the respondent's children or grandchildren help the respondent with ADL needs. RwRACCAREN indicates the number of the respondent's children or grandchildren who help the respondent with ADL needs. RwRACCARE is coded as 0 if none of the respondent's children or grandchildren help the respondent with ADLs; and is coded as 1 if at least one of the respondent's children or grandchildren help the respondent with ADLs.

RwRACCAREDPM indicates the number of total days per month the respondent's children or grandchildren help the respondent with ADL needs. If the respondent reports receiving help every day from that child or grandchild, then a value of 30 is assumed. RwRACCAREDPM is the sum of days per month for all children or grandchildren helpers, and so values can be over 30 days. RwRACCAREDPM is calculated as long as there is

one non-missing value. RWRACCAREDPM is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RWRACCAREDPMM indicates the number of children or grandchildren who helped the respondent for whom no value of days was reported and was not accounted for in RWRACCAREDPM. RWRACCAREDPMM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

RWRACCAREHR indicates the number of hours per day the respondent's children or grandchildren help the respondent with ADL needs. Respondents are asked, on days their children or grandchildren help, how many hours per day that is. If the respondent reports less than an hour for that child or grandchild, then a 1 is assumed. RWRACCAREHR is the sum of hours per day for all children or grandchildren helpers, and so values can be over 24 hours. RWRACCAREHR is calculated as long as there is one non-missing value. RWRACCAREHR is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RWRACCAREHRM indicates the number of children or grandchildren who helped the respondent for whom no value of hours was reported and was not accounted for in RWRACCAREHR. RWRACCAREHRM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

SWRACCARE, SWRACCAREN, SWRACCAREDPM, and SWRACCAREHR indicate whether the respondent's current wave's spouse receives help from children or grandchildren, the number, and the frequency with which, and their values are taken from RWRACCARE, RWRACCAREN, RWRACCAREDPM, and RWRACCAREHR. SWRACCAREDPMM and SWRACCAREHRM indicate the number of children who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRACCAREDPMM and RWRACCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RWRACCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRACCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps



H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs

H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps

<b>Activities of Daily Living: Receives Informal Care from Relatives</b>
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Wave	Variable	Label	Type
1	R1RARCARE	r1rarcare:w1 R receives informal care from relatives for ADL	Categ
2	R2RARCARE	r2rarcare:w2 R receives informal care from relatives for ADL	Categ
3	R3RARCARE	r3rarcare:w3 R receives informal care from relatives for ADL	Categ
4	R4RARCARE	r4rarcare:w4 R receives informal care from relatives for ADL	Categ
1	S1RARCARE	s1rarcare:w1 S receives informal care from relatives for ADL	Categ
2	S2RARCARE	s2rarcare:w2 S receives informal care from relatives for ADL	Categ
3	S3RARCARE	s3rarcare:w3 S receives informal care from relatives for ADL	Categ
4	S4RARCARE	s4rarcare:w4 S receives informal care from relatives for ADL	Categ
1	R1RARCAREN	r1rarcaren:w1 # relatives who help R with ADLs	Cont
2	R2RARCAREN	r2rarcaren:w2 # relatives who help R with ADLs	Cont
3	R3RARCAREN	r3rarcaren:w3 # relatives who help R with ADLs	Cont
4	R4RARCAREN	r4rarcaren:w4 # relatives who help R with ADLs	Cont
1	S1RARCAREN	s1rarcaren:w1 # relatives who help S with ADLs	Cont
2	S2RARCAREN	s2rarcaren:w2 # relatives who help S with ADLs	Cont
3	S3RARCAREN	s3rarcaren:w3 # relatives who help S with ADLs	Cont
4	S4RARCAREN	s4rarcaren:w4 # relatives who help S with ADLs	Cont
1	R1RARCAREDPM	r1rarcaredpm:w1 days/month relatives help R with ADLs	Cont
2	R2RARCAREDPM	r2rarcaredpm:w2 days/month relatives help R with ADLs	Cont
3	R3RARCAREDPM	r3rarcaredpm:w3 days/month relatives help R with ADLs	Cont
4	R4RARCAREDPM	r4rarcaredpm:w4 days/month relatives help R with ADLs	Cont
1	S1RARCAREDPM	s1rarcaredpm:w1 days/month relatives help S with ADLs	Cont
2	S2RARCAREDPM	s2rarcaredpm:w2 days/month relatives help S with ADLs	Cont
3	S3RARCAREDPM	s3rarcaredpm:w3 days/month relatives help S with ADLs	Cont
4	S4RARCAREDPM	s4rarcaredpm:w4 days/month relatives help S with ADLs	Cont
1	R1RARCAREDPMM	r1rarcaredpmm:w1 R # relatives missing days of help for ADLs	Cont
2	R2RARCAREDPMM	r2rarcaredpmm:w2 R # relatives missing days of help for ADLs	Cont
3	R3RARCAREDPMM	r3rarcaredpmm:w3 R # relatives missing days of help for ADLs	Cont
4	R4RARCAREDPMM	r4rarcaredpmm:w4 R # relatives missing days of help for ADLs	Cont
1	S1RARCAREDPMM	s1rarcaredpmm:w1 S # relatives missing days of help for ADLs	Cont
2	S2RARCAREDPMM	s2rarcaredpmm:w2 S # relatives missing days of help for ADLs	Cont
3	S3RARCAREDPMM	s3rarcaredpmm:w3 S # relatives missing days of help for ADLs	Cont
4	S4RARCAREDPMM	s4rarcaredpmm:w4 S # relatives missing days of help for ADLs	Cont
1	R1RARCAREHR	r1rarcarehr:w1 hours/day relatives help R with ADLs	Cont
2	R2RARCAREHR	r2rarcarehr:w2 hours/day relatives help R with ADLs	Cont
3	R3RARCAREHR	r3rarcarehr:w3 hours/day relatives help R with ADLs	Cont
4	R4RARCAREHR	r4rarcarehr:w4 hours/day relatives help R with ADLs	Cont
1	S1RARCAREHR	s1rarcarehr:w1 hours/day relatives help S with ADLs	Cont
2	S2RARCAREHR	s2rarcarehr:w2 hours/day relatives help S with ADLs	Cont
3	S3RARCAREHR	s3rarcarehr:w3 hours/day relatives help S with ADLs	Cont
4	S4RARCAREHR	s4rarcarehr:w4 hours/day relatives help S with ADLs	Cont
1	R1RARCAREHRM	r1rarcarehrm:w1 R # relatives missing hours of help for ADLs	Cont
2	R2RARCAREHRM	r2rarcarehrm:w2 R # relatives missing hours of help for ADLs	Cont
3	R3RARCAREHRM	r3rarcarehrm:w3 R # relatives missing hours of help for ADLs	Cont
4	R4RARCAREHRM	r4rarcarehrm:w4 R # relatives missing hours of help for ADLs	Cont
1	S1RARCAREHRM	s1rarcarehrm:w1 S # relatives missing hours of help for ADLs	Cont
2	S2RARCAREHRM	s2rarcarehrm:w2 S # relatives missing hours of help for ADLs	Cont

3 S3RARCCAREHRM s3rarcarehrm:w3 S # relatives missing hours of help for ADLs Cont  
 4 S4RARCCAREHRM s4rarcarehrm:w4 S # relatives missing hours of help for ADLs Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RARCCARE	780	0.05	0.22	0.00	1.00
R2RARCCARE	789	0.00	0.00	0.00	0.00
R3RARCCARE	1172	0.05	0.23	0.00	1.00
R4RARCCARE	1297	0.05	0.21	0.00	1.00
S1RARCCARE	456	0.02	0.15	0.00	1.00
S2RARCCARE	457	0.00	0.00	0.00	0.00
S3RARCCARE	575	0.02	0.13	0.00	1.00
S4RARCCARE	638	0.01	0.11	0.00	1.00
R1RARCCAREN	780	0.06	0.30	0.00	3.00
R2RARCCAREN	789	0.00	0.00	0.00	0.00
R3RARCCAREN	1172	0.07	0.34	0.00	4.00
R4RARCCAREN	1297	0.06	0.36	0.00	8.00
S1RARCCAREN	456	0.02	0.15	0.00	1.00
S2RARCCAREN	457	0.00	0.00	0.00	0.00
S3RARCCAREN	575	0.02	0.13	0.00	1.00
S4RARCCAREN	638	0.01	0.13	0.00	2.00
R1RARCCAREDPM	780	1.44	7.15	0.00	90.00
R2RARCCAREDPM	789	0.00	0.00	0.00	0.00
R3RARCCAREDPM	1171	1.53	7.45	0.00	90.00
R4RARCCAREDPM	1295	1.49	9.93	0.00	240.00
S1RARCCAREDPM	456	0.57	4.00	0.00	30.00
S2RARCCAREDPM	457	0.00	0.00	0.00	0.00
S3RARCCAREDPM	575	0.48	3.66	0.00	30.00
S4RARCCAREDPM	638	0.34	3.47	0.00	60.00
R1RARCCAREDPMM	780	0.00	0.00	0.00	0.00
R2RARCCAREDPMM	789	0.00	0.00	0.00	0.00
R3RARCCAREDPMM	1172	0.00	0.06	0.00	2.00
R4RARCCAREDPMM	1297	0.00	0.04	0.00	1.00
S1RARCCAREDPMM	456	0.00	0.00	0.00	0.00
S2RARCCAREDPMM	457	0.00	0.00	0.00	0.00
S3RARCCAREDPMM	575	0.00	0.00	0.00	0.00
S4RARCCAREDPMM	638	0.00	0.00	0.00	0.00
R1RARCCAREHR	780	0.39	2.30	0.00	28.00
R2RARCCAREHR	789	0.00	0.00	0.00	0.00
R3RARCCAREHR	1171	0.66	4.06	0.00	50.00
R4RARCCAREHR	1296	0.32	2.12	0.00	32.00
S1RARCCAREHR	456	0.21	1.86	0.00	24.00
S2RARCCAREHR	457	0.00	0.00	0.00	0.00
S3RARCCAREHR	575	0.12	1.29	0.00	24.00
S4RARCCAREHR	638	0.04	0.46	0.00	8.00
R1RARCCAREHRM	780	0.00	0.00	0.00	0.00
R2RARCCAREHRM	789	0.00	0.00	0.00	0.00
R3RARCCAREHRM	1172	0.00	0.03	0.00	1.00
R4RARCCAREHRM	1297	0.00	0.03	0.00	1.00
S1RARCCAREHRM	456	0.00	0.00	0.00	0.00

S2RARCAREHRM	457	0.00	0.00	0.00	0.00
S3RARCAREHRM	575	0.00	0.00	0.00	0.00
S4RARCAREHRM	638	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RARCARE	R2RARCARE	R3RARCARE	R4RARCARE
.d:DK	1		1	6
.h:no help received	873	738	1785	1715
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	740	789	1109	1236
1.Yes	40		63	61

Value-----	S1RARCARE	S2RARCARE	S3RARCARE	S4RARCARE
.d:DK			1	5
.h:no help received	524	409	1107	1012
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	446	457	565	630
1.Yes	10		10	8

## How Constructed

The following variables indicate whether any of the respondent's relatives help the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRARCARE, RwRARCAREN, RwRARCAREDPM, RwRARCAREDPMM, RwRARCAREHR, and RwRARCAREHRM include help from the respondent's parent or other relative.

RwRARCARE indicates whether any of the respondent's relatives help the respondent with ADL needs. RwRARCAREN indicates the number of the respondent's relatives who help the respondent with ADL needs. RwRARCARE is coded as 0 if none of the respondent's relatives help the respondent with ADLs; and is coded as 1 if at least one of the respondent's relatives help the respondent with ADLs.

RwRARCAREDPM indicates the number of total days per month the respondent's relatives help the respondent with ADL needs. If the respondent reports receiving help every day from that relative, then a value of 30 is assumed. RwRARCAREDPM is the sum of days per month for all relative helpers, and so values can be over 30 days. RwRARCAREDPM is calculated as long as there is one non-missing value. RwRARCAREDPM is assigned a value of 0 if the respondent did not receive help from any relatives. RwRARCAREDPMM indicates the number

of relatives who helped the respondent for whom no value of days was reported and was not accounted for in RWRARCAREDPM. RWRARCAREDPMM is assigned special missing value .m if the respondent was not helped by any relatives.

RWRARCAREHR indicates the number of hours per day the respondent's relatives help the respondent with ADL needs. Respondents are asked, on days their relatives help, how many hours per day that is. If the respondent reports less than an hour for that relative, then a 1 is assumed. RWRARCAREHR is the sum of hours per day for all relative helpers, and so values can be over 24 hours. RWRARCAREHR is calculated as long as there is one non-missing value. RWRARCAREHR is assigned a value of 0 if the respondent did not receive help from any relatives. RWRARCAREHRM indicates the number of relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RWRARCAREHR. RWRARCAREHRM is assigned special missing value .m if the respondent was not helped by any relatives.

SwRARCARE, SwRARCAREN, SwRARCAREDPM, and SwRARCAREHR indicate whether the respondent's current wave's spouse receives help from relatives, the number, and the frequency with which, and their values are taken from RWRARCARE, RWRARCAREN, RWRARCAREDPM, and RWRARCAREHR. SwRARCAREDPMM and SwRARCAREHRM indicate the number of relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRARCAREDPMM and RWRARCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RWRARCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRARCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps

H17E spouse helps  
 H17F additional person helps  
 H18E spouse helps  
 H18F additional person helps  
 H19E spouse helps  
 H19F additional person helps

## Wave 2 Helper:

H22 relationship  
 H23 registration number  
 H24 number of days (name) helped last month  
 H25 number of hours during those days

## Wave 3:

H14\_12 Someone help you to get dressed  
 H15D\_12 Someone help you walk across room  
 H16D\_12 Someone help you to bathe or shower  
 H17D\_12 Does someone help you eat your food  
 H18D\_12 Does someone help you get into or out of bed  
 H19D\_12 Does someone help you use toilet, get on off  
 H22\_1\_12 Relationship with helper for ADLs  
 H22\_2\_12 Relationship with helper for ADLs  
 H22\_3\_12 Relationship with helper for ADLs  
 H22\_4\_12 Relationship with helper for ADLs  
 H22\_5\_12 Relationship with helper for ADLs  
 H22\_6\_12 Relationship with helper for ADLs  
 H22\_7\_12 Relationship with helper for ADLs  
 H22\_8\_12 Relationship with helper for ADLs  
 H23\_1\_12 Registration number of helper for ADLs  
 H23\_2\_12 Registration number of helper for ADLs  
 H23\_3\_12 Registration number of helper for ADLs  
 H23\_4\_12 Registration number of helper for ADLs  
 H23\_5\_12 Registration number of helper for ADLs  
 H23\_6\_12 Registration number of helper for ADLs  
 H23\_7\_12 Registration number of helper for ADLs  
 H23\_8\_12 Registration number of helper for ADLs  
 H24\_1\_12 Number of days (name) helped last month  
 H24\_2\_12 Number of days (name) helped last month  
 H24\_3\_12 Number of days (name) helped last month  
 H24\_4\_12 Number of days (name) helped last month  
 H24\_5\_12 Number of days (name) helped last month  
 H24\_6\_12 Number of days (name) helped last month  
 H24\_7\_12 Number of days (name) helped last month  
 H24\_8\_12 Number of days (name) helped last month  
 H25\_1\_12 Number of hours during those days (NAME) helped  
 H25\_2\_12 Number of hours during those days (NAME) helped  
 H25\_3\_12 Number of hours during those days (NAME) helped  
 H25\_4\_12 Number of hours during those days (NAME) helped  
 H25\_5\_12 Number of hours during those days (NAME) helped  
 H25\_6\_12 Number of hours during those days (NAME) helped  
 H25\_7\_12 Number of hours during those days (NAME) helped  
 H25\_8\_12 Number of hours during those days (NAME) helped

## Wave 4:

H14\_15 Does someone help respondent to get dressed  
 H15D\_15 Does someone help respondent walking across a room  
 H16D\_15 Does someone help respondent bathing or showering  
 H17D\_15 Does someone help respondent eating  
 H18D\_15 Does someone help respondent getting in or out of bed  
 H19D\_15 Does someone help respondent using the toilet  
 H22\_1\_15 Respondent's relationship with person helping with ADLs  
 H22\_2\_15 Respondent's relationship with person helping with ADLs  
 H22\_3\_15 Respondent's relationship with person helping with ADLs  
 H22\_4\_15 Respondent's relationship with person helping with ADLs  
 H22\_5\_15 Respondent's relationship with person helping with ADLs  
 H22\_6\_15 Respondent's relationship with person helping with ADLs

H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps



<b>Activities of Daily Living: Receives Informal Care from Other Individuals</b>
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Wave	Variable	Label	Type
1	R1RAFCARE	r1rafcare:w1 R receives informal care from non-relatives for	Categ
2	R2RAFCARE	r2rafcare:w2 R receives informal care from non-relatives for	Categ
3	R3RAFCARE	r3rafcare:w3 R receives informal care from non-relatives for	Categ
4	R4RAFCARE	r4rafcare:w4 R receives informal care from non-relatives for	Categ
1	S1RAFCARE	s1rafcare:w1 S receives informal care from non-relatives for	Categ
2	S2RAFCARE	s2rafcare:w2 S receives informal care from non-relatives for	Categ
3	S3RAFCARE	s3rafcare:w3 S receives informal care from non-relatives for	Categ
4	S4RAFCARE	s4rafcare:w4 S receives informal care from non-relatives for	Categ
1	R1RAFCAREN	r1rafcaren:w1 # non-relatives who help R with ADLs	Cont
2	R2RAFCAREN	r2rafcaren:w2 # non-relatives who help R with ADLs	Cont
3	R3RAFCAREN	r3rafcaren:w3 # non-relatives who help R with ADLs	Cont
4	R4RAFCAREN	r4rafcaren:w4 # non-relatives who help R with ADLs	Cont
1	S1RAFCAREN	s1rafcaren:w1 # non-relatives who help S with ADLs	Cont
2	S2RAFCAREN	s2rafcaren:w2 # non-relatives who help S with ADLs	Cont
3	S3RAFCAREN	s3rafcaren:w3 # non-relatives who help S with ADLs	Cont
4	S4RAFCAREN	s4rafcaren:w4 # non-relatives who help S with ADLs	Cont
1	R1RAFCAREDPM	r1rafcaredpm:w1 days/month non-relatives help R with ADLs	Cont
2	R2RAFCAREDPM	r2rafcaredpm:w2 days/month non-relatives help R with ADLs	Cont
3	R3RAFCAREDPM	r3rafcaredpm:w3 days/month non-relatives help R with ADLs	Cont
4	R4RAFCAREDPM	r4rafcaredpm:w4 days/month non-relatives help R with ADLs	Cont
1	S1RAFCAREDPM	s1rafcaredpm:w1 days/month non-relatives help S with ADLs	Cont
2	S2RAFCAREDPM	s2rafcaredpm:w2 days/month non-relatives help S with ADLs	Cont
3	S3RAFCAREDPM	s3rafcaredpm:w3 days/month non-relatives help S with ADLs	Cont
4	S4RAFCAREDPM	s4rafcaredpm:w4 days/month non-relatives help S with ADLs	Cont
1	R1RAFCAREDPMM	r1rafcaredpmm:w1 R # non-relatives missing days of help for	Cont
2	R2RAFCAREDPMM	r2rafcaredpmm:w2 R # non-relatives missing days of help for	Cont
3	R3RAFCAREDPMM	r3rafcaredpmm:w3 R # non-relatives missing days of help for	Cont
4	R4RAFCAREDPMM	r4rafcaredpmm:w4 R # non-relatives missing days of help for	Cont
1	S1RAFCAREDPMM	s1rafcaredpmm:w1 S # non-relatives missing days of help for	Cont
2	S2RAFCAREDPMM	s2rafcaredpmm:w2 S # non-relatives missing days of help for	Cont
3	S3RAFCAREDPMM	s3rafcaredpmm:w3 S # non-relatives missing days of help for	Cont
4	S4RAFCAREDPMM	s4rafcaredpmm:w4 S # non-relatives missing days of help for	Cont
1	R1RAFCAREHR	r1rafcarehr:w1 hours/day non-relatives help R with ADLs	Cont
2	R2RAFCAREHR	r2rafcarehr:w2 hours/day non-relatives help R with ADLs	Cont
3	R3RAFCAREHR	r3rafcarehr:w3 hours/day non-relatives help R with ADLs	Cont
4	R4RAFCAREHR	r4rafcarehr:w4 hours/day non-relatives help R with ADLs	Cont
1	S1RAFCAREHR	s1rafcarehr:w1 hours/day non-relatives help S with ADLs	Cont
2	S2RAFCAREHR	s2rafcarehr:w2 hours/day non-relatives help S with ADLs	Cont
3	S3RAFCAREHR	s3rafcarehr:w3 hours/day non-relatives help S with ADLs	Cont
4	S4RAFCAREHR	s4rafcarehr:w4 hours/day non-relatives help S with ADLs	Cont
1	R1RAFCAREHRM	r1rafcarehrm:w1 R # non-relatives missing hours of help for	Cont
2	R2RAFCAREHRM	r2rafcarehrm:w2 R # non-relatives missing hours of help for	Cont
3	R3RAFCAREHRM	r3rafcarehrm:w3 R # non-relatives missing hours of help for	Cont
4	R4RAFCAREHRM	r4rafcarehrm:w4 R # non-relatives missing hours of help for	Cont
1	S1RAFCAREHRM	s1rafcarehrm:w1 S # non-relatives missing hours of help for	Cont
2	S2RAFCAREHRM	s2rafcarehrm:w2 S # non-relatives missing hours of help for	Cont

3 S3RAFCAREHRM s3rafcarehrm:w3 S # non-relatives missing hours of help for Cont  
 4 S4RAFCAREHRM s4rafcarehrm:w4 S # non-relatives missing hours of help for Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RAFCARE	780	0.03	0.17	0.00	1.00
R2RAFCARE	789	0.00	0.04	0.00	1.00
R3RAFCARE	1172	0.03	0.17	0.00	1.00
R4RAFCARE	1297	0.03	0.16	0.00	1.00
S1RAFCARE	456	0.01	0.10	0.00	1.00
S2RAFCARE	457	0.00	0.00	0.00	0.00
S3RAFCARE	575	0.01	0.10	0.00	1.00
S4RAFCARE	638	0.01	0.10	0.00	1.00
R1RAFCAREN	780	0.04	0.28	0.00	6.00
R2RAFCAREN	789	0.00	0.04	0.00	1.00
R3RAFCAREN	1172	0.03	0.17	0.00	1.00
R4RAFCAREN	1297	0.03	0.18	0.00	2.00
S1RAFCAREN	456	0.01	0.13	0.00	2.00
S2RAFCAREN	457	0.00	0.00	0.00	0.00
S3RAFCAREN	575	0.01	0.10	0.00	1.00
S4RAFCAREN	638	0.01	0.10	0.00	1.00
R1RAFCAREDPM	780	0.63	4.56	0.00	60.00
R2RAFCAREDPM	789	0.04	1.07	0.00	30.00
R3RAFCAREDPM	1171	0.67	4.27	0.00	30.00
R4RAFCAREDPM	1297	0.54	3.73	0.00	30.00
S1RAFCAREDPM	456	0.12	2.16	0.00	46.00
S2RAFCAREDPM	457	0.00	0.00	0.00	0.00
S3RAFCAREDPM	575	0.23	2.53	0.00	30.00
S4RAFCAREDPM	638	0.13	1.75	0.00	30.00
R1RAFCAREDPMM	780	0.00	0.00	0.00	0.00
R2RAFCAREDPMM	789	0.00	0.00	0.00	0.00
R3RAFCAREDPMM	1172	0.00	0.03	0.00	1.00
R4RAFCAREDPMM	1297	0.00	0.00	0.00	0.00
S1RAFCAREDPMM	456	0.00	0.00	0.00	0.00
S2RAFCAREDPMM	457	0.00	0.00	0.00	0.00
S3RAFCAREDPMM	575	0.00	0.00	0.00	0.00
S4RAFCAREDPMM	638	0.00	0.00	0.00	0.00
R1RAFCAREHR	780	0.17	1.51	0.00	24.00
R2RAFCAREHR	789	0.02	0.50	0.00	14.00
R3RAFCAREHR	1172	0.33	2.39	0.00	24.00
R4RAFCAREHR	1297	0.18	1.42	0.00	24.00
S1RAFCAREHR	456	0.03	0.48	0.00	10.00
S2RAFCAREHR	457	0.00	0.00	0.00	0.00
S3RAFCAREHR	575	0.21	2.23	0.00	24.00
S4RAFCAREHR	638	0.05	0.65	0.00	12.00
R1RAFCAREHRM	780	0.00	0.00	0.00	0.00
R2RAFCAREHRM	789	0.00	0.00	0.00	0.00
R3RAFCAREHRM	1172	0.00	0.00	0.00	0.00
R4RAFCAREHRM	1297	0.00	0.00	0.00	0.00
S1RAFCAREHRM	456	0.00	0.00	0.00	0.00

S2RAFCAREHRM	457	0.00	0.00	0.00	0.00
S3RAFCAREHRM	575	0.00	0.00	0.00	0.00
S4RAFCAREHRM	638	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RAFCARE	R2RAFCARE	R3RAFCARE	R4RAFCARE
.d:DK	1		1	6
.h:no help received	873	738	1785	1715
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	758	788	1135	1261
1.Yes	22	1	37	36

Value-----	S1RAFCARE	S2RAFCARE	S3RAFCARE	S4RAFCARE
.d:DK			1	5
.h:no help received	524	409	1107	1012
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	451	457	569	632
1.Yes	5		6	6

## How Constructed

The following variables indicate whether any non-relative helps the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRAFCARE, RwRAFCAREN, RwRAFCAREDPM, RwRAFCAREDPMM, RwRAFCAREHR, and RwRAFCAREHRM include help from another person (not their spouse, child, child-in-law, grandchild, parent, other relative, or paid person).

RwRAFCARE indicates whether any of the respondent's non-relatives help the respondent with ADL needs. RwRAFCAREN indicates the number of the respondent's non-relatives who help the respondent with ADL needs. RwRARCARE is coded as 0 if none of the respondent's non-relatives help the respondent with ADLs; and is coded as 1 if at least one of the respondent's non-relatives help the respondent with ADLs.

RwRAFCAREDPM indicates the number of total days per month the respondent's non-relatives help the respondent with ADL needs. If the respondent reports receiving help every day from that non-relative, then a value of 30 is assumed. RwRAFCAREDPM is the sum of days per month for all non-relative helpers, and so values can be over 30 days. RwRAFCAREDPM is calculated as long as there is one non-missing value.

RwRAFCAREDPM is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRAFCAREDPMM indicates the number of non-relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRAFCAREDPM. RwRAFCAREDPMM is assigned special missing value .m if the respondent was not helped by any non-relatives.

RwRAFCAREHR indicates the number of hours per day the respondent's non-relatives help the respondent with ADL needs. Respondents are asked, on days their non-relatives help, how many hours per day that is. If the respondent reports less than an hour for that non-relative, then a 1 is assumed. RwRAFCAREHR is the sum of hours per day for all non-relative helpers, and so values can be over 24 hours. RwRAFCAREHR is calculated as long as there is one non-missing value. RwRAFCAREHRE is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRAFCAREHRM indicates the number of non-relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRAFCAREHR. RwRAFCAREHRM is assigned special missing value .m if the respondent was not helped by any non-relatives.

SwRAFCARE, SwRAFCAREN, SwRAFCAREDPM, and SwRAFCAREHR indicate whether the respondent's current wave's spouse receives help from non-relatives, the number, and the frequency with which, and their values are taken from RwRAFCARE, RwRAFCAREN, RwRAFCAREDPM, and RwRAFCAREHR. SwRAFCAREDPMM and SwRAFCAREHRM indicate the number of non-relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRAFCAREDPMM and RwRAFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RwRAFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRAFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps

H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs

H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps

### Activities of Daily Living: Whether Receives Any Formal Care

Wave	Variable	Label	Type
1	R1RAFAANY	r1rafaany:w1 R receives any formal care for ADLs	Categ
2	R2RAFAANY	r2rafaany:w2 R receives any formal care for ADLs	Categ
3	R3RAFAANY	r3rafaany:w3 R receives any formal care for ADLs	Categ
4	R4RAFAANY	r4rafaany:w4 R receives any formal care for ADLs	Categ
1	S1RAFAANY	s1rafaany:w1 S receives any formal care for ADLs	Categ
2	S2RAFAANY	s2rafaany:w2 S receives any formal care for ADLs	Categ
3	S3RAFAANY	s3rafaany:w3 S receives any formal care for ADLs	Categ
4	S4RAFAANY	s4rafaany:w4 S receives any formal care for ADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RAFAANY	1653	0.02	0.14	0.00	1.00
R2RAFAANY	1527	0.00	0.04	0.00	1.00
R3RAFAANY	2957	0.01	0.11	0.00	1.00
R4RAFAANY	3012	0.02	0.14	0.00	1.00
S1RAFAANY	980	0.00	0.06	0.00	1.00
S2RAFAANY	866	0.00	0.00	0.00	0.00
S3RAFAANY	1682	0.00	0.06	0.00	1.00
S4RAFAANY	1650	0.01	0.08	0.00	1.00

### Categorical Variable Codes

Value-----	R1RAFAANY	R2RAFAANY	R3RAFAANY	R4RAFAANY
.d:DK	1		1	6
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	1622	1524	2921	2955
1.Yes	31	3	36	57

Value-----	S1RAFAANY	S2RAFAANY	S3RAFAANY	S4RAFAANY
.d:DK			1	5
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	976	866	1675	1639
1.Yes	4		7	11

### How Constructed

RwRAFAANY indicates whether the respondent receives any formal care for difficulties with activities of daily living (ADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The following relationship is considered to provide formal care: paid person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is

"spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRAFAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL but receives no help with the activity from a formal caregiver, or does not receive any help at all. RwRAFAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL and a formal caregiver helps with at least one of the activities. RwRAFAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRAFAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRAFAANY indicates whether the respondent's current wave's spouse receives any formal care for difficulties with ADLs, and its values are taken from RwRAFAANY. In addition to the special missing codes employed by RwRAFAANY, SwRAFAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible in the Harmonized HRS and Harmonized MHAS. Please note that the Harmonized HRS includes categories for paid formal helpers and unpaid formal helpers, while the Harmonized MHAS only includes categories for paid formal helpers.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps



H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs

<b>Activities of Daily Living: Receives Formal Care from Paid Professional</b>
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Wave	Variable	Label	Type
1	R1RAPFCARE	r1rapfcare:w1 R receives formal care from paid professional	Categ
2	R2RAPFCARE	r2rapfcare:w2 R receives formal care from paid professional	Categ
3	R3RAPFCARE	r3rapfcare:w3 R receives formal care from paid professional	Categ
4	R4RAPFCARE	r4rapfcare:w4 R receives formal care from paid professional	Categ
1	S1RAPFCARE	s1rapfcare:w1 S receives formal care from paid professional	Categ
2	S2RAPFCARE	s2rapfcare:w2 S receives formal care from paid professional	Categ
3	S3RAPFCARE	s3rapfcare:w3 S receives formal care from paid professional	Categ
4	S4RAPFCARE	s4rapfcare:w4 S receives formal care from paid professional	Categ
1	R1RAPFCAREN	r1rapfcaren:w1 # paid professionals who help R with ADLs	Cont
2	R2RAPFCAREN	r2rapfcaren:w2 # paid professionals who help R with ADLs	Cont
3	R3RAPFCAREN	r3rapfcaren:w3 # paid professionals who help R with ADLs	Cont
4	R4RAPFCAREN	r4rapfcaren:w4 # paid professionals who help R with ADLs	Cont
1	S1RAPFCAREN	s1rapfcaren:w1 # paid professionals who help S with ADLs	Cont
2	S2RAPFCAREN	s2rapfcaren:w2 # paid professionals who help S with ADLs	Cont
3	S3RAPFCAREN	s3rapfcaren:w3 # paid professionals who help S with ADLs	Cont
4	S4RAPFCAREN	s4rapfcaren:w4 # paid professionals who help S with ADLs	Cont
1	R1RAPFCAREDPM	r1rapfcaredpm:w1 days/month paid professionals help R with A	Cont
2	R2RAPFCAREDPM	r2rapfcaredpm:w2 days/month paid professionals help R with A	Cont
3	R3RAPFCAREDPM	r3rapfcaredpm:w3 days/month paid professionals help R with A	Cont
4	R4RAPFCAREDPM	r4rapfcaredpm:w4 days/month paid professionals help R with A	Cont
1	S1RAPFCAREDPM	s1rapfcaredpm:w1 days/month paid professionals help S with A	Cont
2	S2RAPFCAREDPM	s2rapfcaredpm:w2 days/month paid professionals help S with A	Cont
3	S3RAPFCAREDPM	s3rapfcaredpm:w3 days/month paid professionals help S with A	Cont
4	S4RAPFCAREDPM	s4rapfcaredpm:w4 days/month paid professionals help S with A	Cont
1	R1RAPFCAREDPMM	r1rapfcaredpmm:w1 R # paid professionals missing days of hel	Cont
2	R2RAPFCAREDPMM	r2rapfcaredpmm:w2 R # paid professionals missing days of hel	Cont
3	R3RAPFCAREDPMM	r3rapfcaredpmm:w3 R # paid professionals missing days of hel	Cont
4	R4RAPFCAREDPMM	r4rapfcaredpmm:w4 R # paid professionals missing days of hel	Cont
1	S1RAPFCAREDPMM	s1rapfcaredpmm:w1 S # paid professionals missing days of hel	Cont
2	S2RAPFCAREDPMM	s2rapfcaredpmm:w2 S # paid professionals missing days of hel	Cont
3	S3RAPFCAREDPMM	s3rapfcaredpmm:w3 S # paid professionals missing days of hel	Cont
4	S4RAPFCAREDPMM	s4rapfcaredpmm:w4 S # paid professionals missing days of hel	Cont
1	R1RAPFCAREHR	r1rapfcarehr:w1 hours/day paid professionals help R with ADL	Cont
2	R2RAPFCAREHR	r2rapfcarehr:w2 hours/day paid professionals help R with ADL	Cont
3	R3RAPFCAREHR	r3rapfcarehr:w3 hours/day paid professionals help R with ADL	Cont
4	R4RAPFCAREHR	r4rapfcarehr:w4 hours/day paid professionals help R with ADL	Cont
1	S1RAPFCAREHR	s1rapfcarehr:w1 hours/day paid professionals help S with ADL	Cont
2	S2RAPFCAREHR	s2rapfcarehr:w2 hours/day paid professionals help S with ADL	Cont
3	S3RAPFCAREHR	s3rapfcarehr:w3 hours/day paid professionals help S with ADL	Cont
4	S4RAPFCAREHR	s4rapfcarehr:w4 hours/day paid professionals help S with ADL	Cont
1	R1RAPFCAREHRM	r1rapfcarehrm:w1 R # paid professionals missing hours of hel	Cont
2	R2RAPFCAREHRM	r2rapfcarehrm:w2 R # paid professionals missing hours of hel	Cont
3	R3RAPFCAREHRM	r3rapfcarehrm:w3 R # paid professionals missing hours of hel	Cont
4	R4RAPFCAREHRM	r4rapfcarehrm:w4 R # paid professionals missing hours of hel	Cont
1	S1RAPFCAREHRM	s1rapfcarehrm:w1 S # paid professionals missing hours of hel	Cont
2	S2RAPFCAREHRM	s2rapfcarehrm:w2 S # paid professionals missing hours of hel	Cont

3 S3RAPFCAREHRM s3rapfcarehrm:w3 S # paid professionals missing hours of hel Cont  
 4 S4RAPFCAREHRM s4rapfcarehrm:w4 S # paid professionals missing hours of hel Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RAPFCARE	780	0.04	0.20	0.00	1.00
R2RAPFCARE	789	0.00	0.06	0.00	1.00
R3RAPFCARE	1172	0.03	0.17	0.00	1.00
R4RAPFCARE	1297	0.04	0.21	0.00	1.00
S1RAPFCARE	456	0.01	0.09	0.00	1.00
S2RAPFCARE	457	0.00	0.00	0.00	0.00
S3RAPFCARE	575	0.01	0.11	0.00	1.00
S4RAPFCARE	638	0.02	0.13	0.00	1.00
R1RAPFCAREN	780	0.04	0.24	0.00	3.00
R2RAPFCAREN	789	0.00	0.06	0.00	1.00
R3RAPFCAREN	1172	0.03	0.19	0.00	2.00
R4RAPFCAREN	1297	0.05	0.26	0.00	3.00
S1RAPFCAREN	456	0.01	0.09	0.00	1.00
S2RAPFCAREN	457	0.00	0.00	0.00	0.00
S3RAPFCAREN	575	0.01	0.11	0.00	1.00
S4RAPFCAREN	638	0.02	0.17	0.00	3.00
R1RAPFCAREDPM	780	1.22	6.75	0.00	90.00
R2RAPFCAREDPM	789	0.11	1.85	0.00	30.00
R3RAPFCAREDPM	1172	0.81	4.88	0.00	60.00
R4RAPFCAREDPM	1297	1.12	6.25	0.00	90.00
S1RAPFCAREDPM	456	0.16	2.05	0.00	30.00
S2RAPFCAREDPM	457	0.00	0.00	0.00	0.00
S3RAPFCAREDPM	575	0.26	2.69	0.00	30.00
S4RAPFCAREDPM	638	0.50	4.72	0.00	90.00
R1RAPFCAREDPMM	780	0.00	0.00	0.00	0.00
R2RAPFCAREDPMM	789	0.00	0.00	0.00	0.00
R3RAPFCAREDPMM	1172	0.00	0.00	0.00	0.00
R4RAPFCAREDPMM	1297	0.00	0.00	0.00	0.00
S1RAPFCAREDPMM	456	0.00	0.00	0.00	0.00
S2RAPFCAREDPMM	457	0.00	0.00	0.00	0.00
S3RAPFCAREDPMM	575	0.00	0.00	0.00	0.00
S4RAPFCAREDPMM	638	0.00	0.00	0.00	0.00
R1RAPFCAREHR	780	0.52	3.22	0.00	48.00
R2RAPFCAREHR	789	0.03	0.52	0.00	12.00
R3RAPFCAREHR	1172	0.42	2.81	0.00	30.00
R4RAPFCAREHR	1297	0.51	3.08	0.00	36.00
S1RAPFCAREHR	456	0.10	1.29	0.00	24.00
S2RAPFCAREHR	457	0.00	0.00	0.00	0.00
S3RAPFCAREHR	575	0.22	2.24	0.00	24.00
S4RAPFCAREHR	638	0.18	1.74	0.00	24.00
R1RAPFCAREHRM	780	0.00	0.00	0.00	0.00
R2RAPFCAREHRM	789	0.00	0.00	0.00	0.00
R3RAPFCAREHRM	1172	0.00	0.00	0.00	0.00
R4RAPFCAREHRM	1297	0.00	0.00	0.00	0.00
S1RAPFCAREHRM	456	0.00	0.00	0.00	0.00

S2RAPFCAREHRM	457	0.00	0.00	0.00	0.00
S3RAPFCAREHRM	575	0.00	0.00	0.00	0.00
S4RAPFCAREHRM	638	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RAPFCARE	R2RAPFCARE	R3RAPFCARE	R4RAPFCARE
.d:DK	1		1	6
.h:no help received	873	738	1785	1715
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	13490	12147	12764	11720
0.No	749	786	1136	1240
1.Yes	31	3	36	57

Value-----	S1RAPFCARE	S2RAPFCARE	S3RAPFCARE	S4RAPFCARE
.d:DK			1	5
.h:no help received	524	409	1107	1012
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	9653	8690	8909	7987
0.No	452	457	568	627
1.Yes	4		7	11

## How Constructed

The following variables indicate whether paid formal caregivers help the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRAPFCARE, RwRAPFCAREN, RwRAPFCAREDP, RwRAPFCAREDPMM, RwRAPFCAREHR, and RwRAPFCAREHRM include help from a paid person.

RwRAPFCARE indicates whether any paid professionals help the respondent with ADL needs. RwRAPFCAREN indicates the number of paid professionals who help the respondent with ADL needs. RwRAPFCARE is coded as 0 if no paid professionals help the respondent with ADLs; and is coded as 1 if at least one paid professional helps the respondent with ADLs.

RwRAPFCAREDP indicates the number of total days per month paid professionals help the respondent with ADL needs. If the respondent reports receiving help every day from that paid professional, then a value of 30 is assumed. RwRAPFCAREDP is the sum of days per month for all paid professional helpers, and so values can be over 30 days. RwRAPFCAREDP is calculated as long as there is one non-missing value. RwRAPFCAREDP is assigned a value of 0 if the respondent did not receive help from any paid

professionals. RWRAPFCAREDPMM indicates the number of paid professionals who helped the respondent for whom no value of days was reported and was not accounted for in RWRAPFCAREDPM. RWRAPFCAREDPMM is assigned special missing value .m if the respondent was not helped by any paid professionals. RWRAPFCAREDPM and RWRAPFCAREDPMM are not available in waves 1 and 2.

RWRAPFCAREHR indicates the number of hours per day paid professionals help the respondent with ADL needs. Respondents are asked, on days paid professionals help, how many hours per day that is. If the respondent reports less than an hour for that paid professional, then a 1 is assumed. RWRAPFCAREHR is the sum of hours per day for all paid professional helpers, and so values can be over 24 hours. RWRAPFCAREHR is calculated as long as there is one non-missing value. RWRAPFCAREHR is assigned a value of 0 if the respondent did not receive help from any paid professionals. RWRAPFCAREHRM indicates the number of paid professionals who helped the respondent for whom no value of hours was reported and was not accounted for in RWRAPFCAREHR. RWRAPFCAREHRM is assigned special missing value .m if the respondent was not helped by any paid professionals. RWRAPFCAREHR and RWRAPFCAREHRM are not available in HRS waves 1 and 2. If the respondent participated in HRS wave 2, then RWRAPFCAREHR and RWRAPFCAREHRM are assigned special missing value .q in wave 2.

SWRAPFCARE, SWRAPFCAREN, SWRAPFCAREDPM, and SWRAPFCAREHR indicate whether the respondent's current wave's spouse receives help from paid professionals, the number, and the frequency with which, and their values are taken from RWRAPFCARE, RWRAPFCAREN, RWRAPFCAREDPM, and RWRAPFCAREHR. SWRAPFCAREDPMM and SWRAPFCAREHRM indicate the number of paid professionals who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRAPFCAREDPMM and RWRAPFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RWRAPFCARE in the Harmonized MHAS is also comparable to RWRAPFAANY in the Harmonized HRS, indicating any formal care for ADLs, because the MHAS does not have a category for unpaid formal caregivers.

RWRAPFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRAPFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help

H25	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed

H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps

## Instrumental Activities of Daily Living: Whether Receives Any Care

Wave	Variable	Label	Type
1	R1RICANY	r1ricany:w1 R receives any care for IADLs	Categ
2	R2RICANY	r2ricany:w2 R receives any care for IADLs	Categ
3	R3RICANY	r3ricany:w3 R receives any care for IADLs	Categ
4	R4RICANY	r4ricany:w4 R receives any care for IADLs	Categ
1	S1RICANY	s1ricany:w1 S receives any care for IADLs	Categ
2	S2RICANY	s2ricany:w2 S receives any care for IADLs	Categ
3	S3RICANY	s3ricany:w3 S receives any care for IADLs	Categ
4	S4RICANY	s4ricany:w4 S receives any care for IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RICANY	1684	0.84	0.37	0.00	1.00
R2RICANY	1504	0.86	0.34	0.00	1.00
R3RICANY	2321	0.72	0.45	0.00	1.00
R4RICANY	2492	0.76	0.43	0.00	1.00
S1RICANY	1104	0.86	0.35	0.00	1.00
S2RICANY	998	0.80	0.40	0.00	1.00
S3RICANY	1418	0.66	0.48	0.00	1.00
S4RICANY	1375	0.70	0.46	0.00	1.00

### Categorical Variable Codes

Value-----	R1RICANY	R2RICANY	R3RICANY	R4RICANY
.d:DK			1	5
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	267	204	658	605
1.Yes	1417	1300	1663	1887

Value-----	S1RICANY	S2RICANY	S3RICANY	S4RICANY
.d:DK			1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	154	202	487	406
1.Yes	950	796	931	969

### How Constructed

RwRICANY indicates whether the respondent receives any care for difficulties with instrumental activities of daily living (IADL). If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. RwRICANY is assigned a value of 0 if the respondent has difficulty with at least one IADL but receives no help with the activity. RwRICANY is assigned a value of 1 if the respondent has difficulty with at least one IADL and someone helps with at least one of the activities. RwRICANY is assigned special missing value .x if the respondent has no difficulty with any IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRICANY is assigned a blank missing (.) if the respondent did not participate in the current wave.



SwRICANY indicates whether the respondent's current wave's spouse receives any care for difficulties with IADLs, and its values are taken from RWRICANY. In addition to the special missing codes employed by RWRICANY, SwRICANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, if the respondent reports that they "can't do" or "don't do" the activity or if they have difficulty that is not the result of a health or memory problem, then they are not asked whether they receive help with that activity. Respondents in the MHAS, however, are asked whether they receive help with the activity if they report that they "can't do", "don't do", or have difficulty with the activity, regardless of whether it is the result of a health or memory problem.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RWRICANY in the Harmonized HRS includes help using the telephone, whereas RWRICANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs

H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helped
H35_2_15	Number of hours during those days that the person helped
H35_3_15	Number of hours during those days that the person helped
H35_4_15	Number of hours during those days that the person helped
H35_5_15	Number of hours during those days that the person helped
H35_6_15	Number of hours during those days that the person helped
H35_7_15	Number of hours during those days that the person helped
H35_8_15	Number of hours during those days that the person helped

## Instrumental Activities of Daily Living: Whether Receives Any Informal Care

Wave	Variable	Label	Type
1	R1RICAANY	rlricaany:w1 R receives any informal care for IADLs	Categ
2	R2RICAANY	r2ricaany:w2 R receives any informal care for IADLs	Categ
3	R3RICAANY	r3ricaany:w3 R receives any informal care for IADLs	Categ
4	R4RICAANY	r4ricaany:w4 R receives any informal care for IADLs	Categ
1	S1RICAANY	slricaany:w1 S receives any informal care for IADLs	Categ
2	S2RICAANY	s2ricaany:w2 S receives any informal care for IADLs	Categ
3	S3RICAANY	s3ricaany:w3 S receives any informal care for IADLs	Categ
4	S4RICAANY	s4ricaany:w4 S receives any informal care for IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RICAANY	1684	0.84	0.37	0.00	1.00
R2RICAANY	1504	0.02	0.15	0.00	1.00
R3RICAANY	2321	0.72	0.45	0.00	1.00
R4RICAANY	2492	0.76	0.43	0.00	1.00
S1RICAANY	1104	0.86	0.35	0.00	1.00
S2RICAANY	998	0.00	0.00	0.00	0.00
S3RICAANY	1418	0.66	0.48	0.00	1.00
S4RICAANY	1375	0.70	0.46	0.00	1.00

### Categorical Variable Codes

Value-----	R1RICAANY	R2RICAANY	R3RICAANY	R4RICAANY
.d:DK			1	5
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	268	1468	658	605
1.Yes	1416	36	1663	1887

Value-----	S1RICAANY	S2RICAANY	S3RICAANY	S4RICAANY
.d:DK			1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	155	998	487	406
1.Yes	949		931	969

### How Constructed

RwRICAANY indicates whether the respondent receives any informal care for difficulties with instrumental activities of daily living (IADL). The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The following relationships are considered to provide informal care: spouse, child, child-in-law, grandchild, parent, other relative, other person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees

with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRICAANY is assigned a value of 0 if the respondent has difficulty with at least one IADL but receives no help with the activity from an informal caregiver, or does not receive any help at all. RwRICAANY is assigned a value of 1 if the respondent has difficulty with at least one IADL and an informal caregiver helps with at least one of the activities. RwRICAANY is assigned special missing value .x if the respondent has no difficulty with any IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRICAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRICAANY indicates whether the respondent's current wave's spouse receives any informal care for difficulties with IADLs, and its values are taken from RwRICAANY. In addition to the special missing codes employed by RwRICAANY, SwRICAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRICAANY in the Harmonized HRS includes help using the telephone, whereas RwRICAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps

H29E	additional person helps
Wave 2 Helper:	
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs

H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

<b>Instrumental Activities of Daily Living: Receives Informal Care from Spouse</b>
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Wave	Variable	Label	Type
1	R1RISCARE	r1riscare:w1 R receives informal care from spouse for IADLs	Categ
2	R2RISCARE	r2riscare:w2 R receives informal care from spouse for IADLs	Categ
3	R3RISCARE	r3riscare:w3 R receives informal care from spouse for IADLs	Categ
4	R4RISCARE	r4riscare:w4 R receives informal care from spouse for IADLs	Categ
1	S1RISCARE	s1riscare:w1 S receives informal care from spouse for IADLs	Categ
2	S2RISCARE	s2riscare:w2 S receives informal care from spouse for IADLs	Categ
3	S3RISCARE	s3riscare:w3 S receives informal care from spouse for IADLs	Categ
4	S4RISCARE	s4riscare:w4 S receives informal care from spouse for IADLs	Categ
2	R2RISCAREDPM	r2riscaredpm:w2 days/month spouse helps R with IADLs	Cont
3	R3RISCAREDPM	r3riscaredpm:w3 days/month spouse helps R with IADLs	Cont
4	R4RISCAREDPM	r4riscaredpm:w4 days/month spouse helps R with IADLs	Cont
2	S2RISCAREDPM	s2riscaredpm:w2 days/month spouse helps S with IADLs	Cont
3	S3RISCAREDPM	s3riscaredpm:w3 days/month spouse helps S with IADLs	Cont
4	S4RISCAREDPM	s4riscaredpm:w4 days/month spouse helps S with IADLs	Cont
2	R2RISCAREDPMM	r2riscaredpmm:w2 R # spouse missing days of help for IADLs	Cont
3	R3RISCAREDPMM	r3riscaredpmm:w3 R # spouse missing days of help for IADLs	Cont
4	R4RISCAREDPMM	r4riscaredpmm:w4 R # spouse missing days of help for IADLs	Cont
2	S2RISCAREDPMM	s2riscaredpmm:w2 S # spouse missing days of help for IADLs	Cont
3	S3RISCAREDPMM	s3riscaredpmm:w3 S # spouse missing days of help for IADLs	Cont
4	S4RISCAREDPMM	s4riscaredpmm:w4 S # spouse missing days of help for IADLs	Cont
2	R2RISCAREHR	r2riscarehr:w2 hours/day spouse helps R with IADLs	Cont
3	R3RISCAREHR	r3riscarehr:w3 hours/day spouse helps R with IADLs	Cont
4	R4RISCAREHR	r4riscarehr:w4 hours/day spouse helps R with IADLs	Cont
2	S2RISCAREHR	s2riscarehr:w2 hours/day spouse helps S with IADLs	Cont
3	S3RISCAREHR	s3riscarehr:w3 hours/day spouse helps S with IADLs	Cont
4	S4RISCAREHR	s4riscarehr:w4 hours/day spouse helps S with IADLs	Cont
2	R2RISCAREHRM	r2riscarehrm:w2 R # spouse missing hours of help for IADLs	Cont
3	R3RISCAREHRM	r3riscarehrm:w3 R # spouse missing hours of help for IADLs	Cont
4	R4RISCAREHRM	r4riscarehrm:w4 R # spouse missing hours of help for IADLs	Cont
2	S2RISCAREHRM	s2riscarehrm:w2 S # spouse missing hours of help for IADLs	Cont
3	S3RISCAREHRM	s3riscarehrm:w3 S # spouse missing hours of help for IADLs	Cont
4	S4RISCAREHRM	s4riscarehrm:w4 S # spouse missing hours of help for IADLs	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RISCARE	1417	0.57	0.50	0.00	1.00
R2RISCARE	1300	0.00	0.00	0.00	0.00
R3RISCARE	1663	0.36	0.48	0.00	1.00
R4RISCARE	1887	0.32	0.47	0.00	1.00
S1RISCARE	950	0.84	0.37	0.00	1.00
S2RISCARE	796	0.00	0.00	0.00	0.00
S3RISCARE	931	0.63	0.48	0.00	1.00
S4RISCARE	969	0.61	0.49	0.00	1.00
R2RISCAREDPM	1300	0.00	0.00	0.00	0.00

R3RISCAREDPM	1658	8.78	13.25	0.00	30.00
R4RISCAREDPM	1884	6.95	12.11	0.00	30.00
S2RISCAREDPM	796	0.00	0.00	0.00	0.00
S3RISCAREDPM	927	15.38	14.36	0.00	30.00
S4RISCAREDPM	966	13.24	14.02	0.00	30.00
R2RISCAREDPMM	1300	0.00	0.00	0.00	0.00
R3RISCAREDPMM	1663	0.00	0.05	0.00	1.00
R4RISCAREDPMM	1887	0.00	0.04	0.00	1.00
S2RISCAREDPMM	796	0.00	0.00	0.00	0.00
S3RISCAREDPMM	931	0.00	0.07	0.00	1.00
S4RISCAREDPMM	969	0.00	0.06	0.00	1.00
R2RISCAREHR	1300	0.00	0.00	0.00	0.00
R3RISCAREHR	1648	2.94	6.35	0.00	24.00
R4RISCAREHR	1880	1.44	3.51	0.00	24.00
S2RISCAREHR	796	0.00	0.00	0.00	0.00
S3RISCAREHR	917	5.19	7.75	0.00	24.00
S4RISCAREHR	962	2.75	4.45	0.00	24.00
R2RISCAREHRM	1300	0.00	0.00	0.00	0.00
R3RISCAREHRM	1663	0.01	0.09	0.00	1.00
R4RISCAREHRM	1887	0.00	0.06	0.00	1.00
S2RISCAREHRM	796	0.00	0.00	0.00	0.00
S3RISCAREHRM	931	0.02	0.12	0.00	1.00
S4RISCAREHRM	969	0.01	0.08	0.00	1.00

## Categorical Variable Codes

Value-----	R1RISCARE	R2RISCARE	R3RISCARE	R4RISCARE
.d:DK			1	5
.h:no help received	267	204	658	605
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	607	1300	1067	1279
1.Yes	810		596	608

Value-----	S1RISCARE	S2RISCARE	S3RISCARE	S4RISCARE
.d:DK			1	5
.h:no help received	154	202	487	406
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	152	796	349	378
1.Yes	798		582	591

## How Constructed

The following variables indicate whether the respondent's spouse helps the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked



to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRISCARE, RwRISCAREDPM, RwRISCAREDPMM, RwRISCAREHR, and RwRISCAREHRM include help from the respondent's spouse.

RwRISCARE indicates whether the respondent's spouse helps the respondent with any IADL needs. RwRISCARE is coded as 0 if the respondent receives no assistance from their spouse; and is coded as 1 if the respondent does receive help from their spouse.

RwRISCAREDPM indicates the number of days per month the respondent's spouse helps the respondent with IADL needs. If the respondent reports receiving help every day from their spouse, then a value of 30 is assumed. RwRISCAREDPM is assigned a value of 0 if the respondent did not receive help from their spouse. RwRISCAREDPMM indicates whether no value of days was reported for their spouse helper and so was not accounted for in RwRISCAREDPM. RwRISCAREDPMM is assigned special missing value .m if the respondent was not helped by their spouse. RwRISCAREDPM and RwRISCAREDPMM are not available in wave 1.

RwRISCAREHR indicates the number of hours per day the respondent's spouse helps the respondent with any IADL needs. Respondents are asked, on days their spouse helps with a particular IADL need, how many hours per day their spouse helps. If the respondent reports less than an hour for their spouse, then a 1 is assumed. RwRISCAREHR is assigned a value of 0 if the respondent did not receive help from their spouse. RwRISCAREHRM indicates whether no value of hours was reported for their spouse helper and so was not accounted for in RwRISCAREHR. RwRISCAREHRM is assigned special missing value .m if the respondent was not helped by their spouse. RwRISCAREHR and RwRISCAREHRM are not available in wave 1.

SwRISCARE, SwRISCAREDPM, and SwRISCAREHR indicate whether and the frequency with which the respondent's current wave's spouse receives help from the respondent, and their values are taken from RwRISCARE, RwRISCAREDPM, and RwRISCAREHR. SwRISCAREDPMM and SwRISCAREHRM indicate whether or not a value was reported for the number of days and hours the respondent's current spouse was helped by the respondent and are taken from RwRISCAREDPMM and RwRISCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The respondent is asked the number of days per month and hours per day the respondent receives help from their spouse starting in wave 2.

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. These variables in the Harmonized HRS include help provided by the respondent's spouse or former spouse, whereas these variables only include help provided by the respondent's spouse in the Harmonized MHAS.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RwRIPFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRIPFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month

H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

<b>Instrumental Activities of Daily Living: Receives Informal Care from Children or Grandchildren</b>
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Wave	Variable	Label	Type
1	R1RICCARE	r1riccare:w1 R receives informal care from kids/grandkids fo	Categ
2	R2RICCARE	r2riccare:w2 R receives informal care from kids/grandkids fo	Categ
3	R3RICCARE	r3riccare:w3 R receives informal care from kids/grandkids fo	Categ
4	R4RICCARE	r4riccare:w4 R receives informal care from kids/grandkids fo	Categ
1	S1RICCARE	s1riccare:w1 S receives informal care from kids/grandkids fo	Categ
2	S2RICCARE	s2riccare:w2 S receives informal care from kids/grandkids fo	Categ
3	S3RICCARE	s3riccare:w3 S receives informal care from kids/grandkids fo	Categ
4	S4RICCARE	s4riccare:w4 S receives informal care from kids/grandkids fo	Categ
1	R1RICCAREN	r1riccaren:w1 # kids/grandkids who help R with IADLs	Cont
2	R2RICCAREN	r2riccaren:w2 # kids/grandkids who help R with IADLs	Cont
3	R3RICCAREN	r3riccaren:w3 # kids/grandkids who help R with IADLs	Cont
4	R4RICCAREN	r4riccaren:w4 # kids/grandkids who help R with IADLs	Cont
1	S1RICCAREN	s1riccaren:w1 # kids/grandkids who help S with IADLs	Cont
2	S2RICCAREN	s2riccaren:w2 # kids/grandkids who help S with IADLs	Cont
3	S3RICCAREN	s3riccaren:w3 # kids/grandkids who help S with IADLs	Cont
4	S4RICCAREN	s4riccaren:w4 # kids/grandkids who help S with IADLs	Cont
1	R1RICCAREDPM	r1riccaredpm:w1 days/month kids/grandkids help R with IADLs	Cont
2	R2RICCAREDPM	r2riccaredpm:w2 days/month kids/grandkids help R with IADLs	Cont
3	R3RICCAREDPM	r3riccaredpm:w3 days/month kids/grandkids help R with IADLs	Cont
4	R4RICCAREDPM	r4riccaredpm:w4 days/month kids/grandkids help R with IADLs	Cont
1	S1RICCAREDPM	s1riccaredpm:w1 days/month kids/grandkids help S with IADLs	Cont
2	S2RICCAREDPM	s2riccaredpm:w2 days/month kids/grandkids help S with IADLs	Cont
3	S3RICCAREDPM	s3riccaredpm:w3 days/month kids/grandkids help S with IADLs	Cont
4	S4RICCAREDPM	s4riccaredpm:w4 days/month kids/grandkids help S with IADLs	Cont
1	R1RICCAREDPMM	r1riccaredpmm:w1 R # kids/grandkids missing days of help for	Cont
2	R2RICCAREDPMM	r2riccaredpmm:w2 R # kids/grandkids missing days of help for	Cont
3	R3RICCAREDPMM	r3riccaredpmm:w3 R # kids/grandkids missing days of help for	Cont
4	R4RICCAREDPMM	r4riccaredpmm:w4 R # kids/grandkids missing days of help for	Cont
1	S1RICCAREDPMM	s1riccaredpmm:w1 S # kids/grandkids missing days of help for	Cont
2	S2RICCAREDPMM	s2riccaredpmm:w2 S # kids/grandkids missing days of help for	Cont
3	S3RICCAREDPMM	s3riccaredpmm:w3 S # kids/grandkids missing days of help for	Cont
4	S4RICCAREDPMM	s4riccaredpmm:w4 S # kids/grandkids missing days of help for	Cont
1	R1RICCAREHR	r1riccarehr:w1 hours/day kids/grandkids help R with IADLs	Cont
2	R2RICCAREHR	r2riccarehr:w2 hours/day kids/grandkids help R with IADLs	Cont
3	R3RICCAREHR	r3riccarehr:w3 hours/day kids/grandkids help R with IADLs	Cont
4	R4RICCAREHR	r4riccarehr:w4 hours/day kids/grandkids help R with IADLs	Cont
1	S1RICCAREHR	s1riccarehr:w1 hours/day kids/grandkids help S with IADLs	Cont
2	S2RICCAREHR	s2riccarehr:w2 hours/day kids/grandkids help S with IADLs	Cont
3	S3RICCAREHR	s3riccarehr:w3 hours/day kids/grandkids help S with IADLs	Cont
4	S4RICCAREHR	s4riccarehr:w4 hours/day kids/grandkids help S with IADLs	Cont
1	R1RICCAREHRM	r1riccarehrm:w1 R # kids/grandkids missing hours of help for	Cont
2	R2RICCAREHRM	r2riccarehrm:w2 R # kids/grandkids missing hours of help for	Cont
3	R3RICCAREHRM	r3riccarehrm:w3 R # kids/grandkids missing hours of help for	Cont
4	R4RICCAREHRM	r4riccarehrm:w4 R # kids/grandkids missing hours of help for	Cont
1	S1RICCAREHRM	s1riccarehrm:w1 S # kids/grandkids missing hours of help for	Cont
2	S2RICCAREHRM	s2riccarehrm:w2 S # kids/grandkids missing hours of help for	Cont

3 S3RICCAREHRM s3riccarehrm:w3 S # kids/grandkids missing hours of help for Cont  
 4 S4RICCAREHRM s4riccarehrm:w4 S # kids/grandkids missing hours of help for Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RICCARE	1417	0.48	0.50	0.00	1.00
R2RICCARE	1300	0.02	0.15	0.00	1.00
R3RICCARE	1663	0.60	0.49	0.00	1.00
R4RICCARE	1887	0.65	0.48	0.00	1.00
S1RICCARE	950	0.32	0.47	0.00	1.00
S2RICCARE	796	0.00	0.00	0.00	0.00
S3RICCARE	931	0.41	0.49	0.00	1.00
S4RICCARE	969	0.45	0.50	0.00	1.00
R1RICCAREN	1417	0.66	0.86	0.00	6.00
R2RICCAREN	1300	0.03	0.22	0.00	3.00
R3RICCAREN	1663	0.73	0.74	0.00	6.00
R4RICCAREN	1887	0.82	0.77	0.00	7.00
S1RICCAREN	950	0.47	0.84	0.00	6.00
S2RICCAREN	796	0.00	0.00	0.00	0.00
S3RICCAREN	931	0.53	0.77	0.00	5.00
S4RICCAREN	969	0.58	0.77	0.00	7.00
R1RICCAREDPM	1417	14.78	22.01	0.00	180.00
R2RICCAREDPM	1300	0.81	6.00	0.00	90.00
R3RICCAREDPM	1652	14.20	17.92	0.00	135.00
R4RICCAREDPM	1883	14.36	18.47	0.00	210.00
S1RICCAREDPM	950	10.18	21.07	0.00	180.00
S2RICCAREDPM	796	0.00	0.00	0.00	0.00
S3RICCAREDPM	926	9.12	16.01	0.00	135.00
S4RICCAREDPM	966	9.35	15.32	0.00	120.00
R1RICCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RICCAREDPMM	1300	0.00	0.00	0.00	0.00
R3RICCAREDPMM	1663	0.01	0.10	0.00	2.00
R4RICCAREDPMM	1887	0.00	0.07	0.00	2.00
S1RICCAREDPMM	950	0.00	0.00	0.00	0.00
S2RICCAREDPMM	796	0.00	0.00	0.00	0.00
S3RICCAREDPMM	931	0.01	0.09	0.00	1.00
S4RICCAREDPMM	969	0.00	0.06	0.00	1.00
R1RICCAREHR	1417	2.62	4.91	0.00	48.00
R2RICCAREHR	1300	0.18	1.98	0.00	56.00
R3RICCAREHR	1651	4.66	7.65	0.00	75.00
R4RICCAREHR	1881	3.43	6.20	0.00	168.00
S1RICCAREHR	950	1.56	3.73	0.00	36.00
S2RICCAREHR	796	0.00	0.00	0.00	0.00
S3RICCAREHR	924	2.79	6.31	0.00	75.00
S4RICCAREHR	968	2.16	4.01	0.00	28.00
R1RICCAREHRM	1417	0.00	0.00	0.00	0.00
R2RICCAREHRM	1300	0.00	0.00	0.00	0.00
R3RICCAREHRM	1663	0.01	0.10	0.00	2.00
R4RICCAREHRM	1887	0.01	0.11	0.00	4.00
S1RICCAREHRM	950	0.00	0.00	0.00	0.00

S2RICCAREHRM	796	0.00	0.00	0.00	0.00
S3RICCAREHRM	931	0.01	0.09	0.00	1.00
S4RICCAREHRM	969	0.00	0.05	0.00	1.00

## Categorical Variable Codes

Value-----	R1RICCARE	R2RICCARE	R3RICCARE	R4RICCARE
.d:DK			1	5
.h:no help received	267	204	658	605
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	736	1269	670	661
1.Yes	681	31	993	1226

Value-----	S1RICCARE	S2RICCARE	S3RICCARE	S4RICCARE
.d:DK			1	5
.h:no help received	154	202	487	406
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	646	796	548	532
1.Yes	304		383	437

## How Constructed

The following variables indicate whether the respondent's children or grandchildren help the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRICCARE, RwRICCAREN, RwRICCAREDPM, RwRICCAREDPMM, RwRICCAREHR, and RwRICCAREHRM include help from a child, child-in-law, or grandchild.

RwRICCARE indicates whether any of the respondent's children or grandchildren help the respondent with IADL needs. RwRICCAREN indicates the number of the respondent's children or grandchildren who help the respondent with IADL needs. RwRICCARE is coded as 0 if none of the respondent's children or grandchildren help the respondent with IADLs; and is coded as 1 if at least one of the respondent's children or grandchildren help the respondent with IADLs.

RwRICCAREDPM indicates the number of total days per month the respondent's children or grandchildren help the respondent with IADL needs. If the respondent reports receiving help every day from that child or

grandchild, then a value of 30 is assumed. RWRICCAREDPM is the sum of days per month for all children or grandchildren helpers, and so values can be over 30 days. RWRICCAREDPM is calculated as long as there is one non-missing value. RWRICCAREDPM is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RWRICCAREDPMM indicates the number of children or grandchildren who helped the respondent for whom no value of days was reported and was not accounted for in RWRICCAREDPM. RWRICCAREDPMM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

RWRICCAREHR indicates the number of hours per day the respondent's children or grandchildren help the respondent with IADL needs. Respondents are asked, on days their children or grandchildren help, how many hours per day that is. If the respondent reports less than an hour for that child or grandchild, then a 1 is assumed. RWRICCAREHR is the sum of hours per day for all children or grandchildren helpers, and so values can be over 24 hours. RWRICCAREHR is calculated as long as there is one non-missing value. RWRICCAREHR is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RWRICCAREHRM indicates the number of children or grandchildren who helped the respondent for whom no value of hours was reported and was not accounted for in RWRICCAREHR. RWRICCAREHRM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

SWRICCARE, SWRICCAREN, SWRICCAREDPM, and SWRICCAREHR indicate whether the respondent's current wave's spouse receives help from children or grandchildren, the number, and the frequency with which, and their values are taken from RWRICCARE, RWRICCAREN, RWRICCAREDPM, and RWRICCAREHR. SWRICCAREDPMM and SWRICCAREHRM indicate the number of children who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRICCAREDPMM and RWRICCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RWRICCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRICCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

## Wave 2:

H26D spouse helps  
 H26E additional person helps  
 H27D spouse helps  
 H27E additional person helps  
 H28D spouse helps  
 H28E additional person helps  
 H29D spouse helps  
 H29E additional person helps

## Wave 3:

H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs  
 H32\_7\_12 Relationship with helper for IADLs  
 H32\_8\_12 Relationship with helper for IADLs  
 H33\_1\_12 Registration number of helper for IADLs  
 H33\_2\_12 Registration number of helper for ADLs  
 H33\_3\_12 Registration number of helper for IADLs  
 H33\_4\_12 Registration number of helper for IADLs  
 H33\_5\_12 Registration number of helper for IADLs  
 H33\_6\_12 Registration number of helper for IADLs  
 H33\_7\_12 Registration number of helper for IADLs  
 H33\_8\_12 Registration number of helper for IADLs  
 H34\_1\_12 Number of days (name) helped last month  
 H34\_2\_12 Number of days (name) helped last month  
 H34\_3\_12 Number of days (name) helped last month  
 H34\_4\_12 Number of days (name) helped last month  
 H34\_5\_12 Number of days (name) helped last month  
 H34\_6\_12 Number of days (name) helped last month  
 H34\_7\_12 Number of days (name) helped last month  
 H34\_8\_12 Number of days (name) helped last month  
 H35\_1\_12 Number of hours during those days (NAME) helped  
 H35\_2\_12 Number of hours during those days (NAME) helped  
 H35\_3\_12 Number of hours during those days (NAME) helped  
 H35\_4\_12 Number of hours during those days (NAME) helped  
 H35\_5\_12 Number of hours during those days (NAME) helped  
 H35\_6\_12 Number of hours during those days (NAME) helped  
 H35\_7\_12 Number of hours during those days (NAME) helped  
 H35\_8\_12 Number of hours during those days (NAME) helped

## Wave 4:

H26C\_15 Does someone help respondent to prepare a hot meal  
 H27C\_15 Does someone help respondent to shop for groceries  
 H28C\_15 Does someone help respondent to take medications  
 H29C\_15 Does someone help respondent to manage his/her money  
 H32\_1\_15 Respondent's relationship with person helping with IADL  
 H32\_2\_15 Respondent's relationship with person helping with IADL  
 H32\_3\_15 Respondent's relationship with person helping with IADL  
 H32\_4\_15 Respondent's relationship with person helping with IADL  
 H32\_5\_15 Respondent's relationship with person helping with IADL  
 H32\_6\_15 Respondent's relationship with person helping with IADL  
 H32\_7\_15 Respondent's relationship with person helping with IADL  
 H32\_8\_15 Respondent's relationship with person helping with IADL  
 H33\_1\_15 Registration number of person helping with IADLs  
 H33\_2\_15 Registration number of person helping with IADLs  
 H33\_3\_15 Registration number of person helping with IADLs  
 H33\_4\_15 Registration number of person helping with IADLs



H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

<b>Instrumental Activities of Daily Living: Receives Informal Care from Relatives</b>
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Wave	Variable	Label	Type
1	R1RIRCARE	r1rircare:w1 R receives informal care from relatives for IAD	Categ
2	R2RIRCARE	r2rircare:w2 R receives informal care from relatives for IAD	Categ
3	R3RIRCARE	r3rircare:w3 R receives informal care from relatives for IAD	Categ
4	R4RIRCARE	r4rircare:w4 R receives informal care from relatives for IAD	Categ
1	S1RIRCARE	s1rircare:w1 S receives informal care from relatives for IAD	Categ
2	S2RIRCARE	s2rircare:w2 S receives informal care from relatives for IAD	Categ
3	S3RIRCARE	s3rircare:w3 S receives informal care from relatives for IAD	Categ
4	S4RIRCARE	s4rircare:w4 S receives informal care from relatives for IAD	Categ
1	R1RIRCAREN	r1rircaren:w1 # relatives who help R with IADLs	Cont
2	R2RIRCAREN	r2rircaren:w2 # relatives who help R with IADLs	Cont
3	R3RIRCAREN	r3rircaren:w3 # relatives who help R with IADLs	Cont
4	R4RIRCAREN	r4rircaren:w4 # relatives who help R with IADLs	Cont
1	S1RIRCAREN	s1rircaren:w1 # relatives who help S with IADLs	Cont
2	S2RIRCAREN	s2rircaren:w2 # relatives who help S with IADLs	Cont
3	S3RIRCAREN	s3rircaren:w3 # relatives who help S with IADLs	Cont
4	S4RIRCAREN	s4rircaren:w4 # relatives who help S with IADLs	Cont
1	R1RIRCAREDPM	r1rircaredpm:w1 days/month relatives help R with IADLs	Cont
2	R2RIRCAREDPM	r2rircaredpm:w2 days/month relatives help R with IADLs	Cont
3	R3RIRCAREDPM	r3rircaredpm:w3 days/month relatives help R with IADLs	Cont
4	R4RIRCAREDPM	r4rircaredpm:w4 days/month relatives help R with IADLs	Cont
1	S1RIRCAREDPM	s1rircaredpm:w1 days/month relatives help S with IADLs	Cont
2	S2RIRCAREDPM	s2rircaredpm:w2 days/month relatives help S with IADLs	Cont
3	S3RIRCAREDPM	s3rircaredpm:w3 days/month relatives help S with IADLs	Cont
4	S4RIRCAREDPM	s4rircaredpm:w4 days/month relatives help S with IADLs	Cont
1	R1RIRCAREDPMM	r1rircaredpmm:w1 R # relatives missing days of help for IADL	Cont
2	R2RIRCAREDPMM	r2rircaredpmm:w2 R # relatives missing days of help for IADL	Cont
3	R3RIRCAREDPMM	r3rircaredpmm:w3 R # relatives missing days of help for IADL	Cont
4	R4RIRCAREDPMM	r4rircaredpmm:w4 R # relatives missing days of help for IADL	Cont
1	S1RIRCAREDPMM	s1rircaredpmm:w1 S # relatives missing days of help for IADL	Cont
2	S2RIRCAREDPMM	s2rircaredpmm:w2 S # relatives missing days of help for IADL	Cont
3	S3RIRCAREDPMM	s3rircaredpmm:w3 S # relatives missing days of help for IADL	Cont
4	S4RIRCAREDPMM	s4rircaredpmm:w4 S # relatives missing days of help for IADL	Cont
1	R1RIRCAREHR	r1rircarehr:w1 hours/day relatives help R with IADLs	Cont
2	R2RIRCAREHR	r2rircarehr:w2 hours/day relatives help R with IADLs	Cont
3	R3RIRCAREHR	r3rircarehr:w3 hours/day relatives help R with IADLs	Cont
4	R4RIRCAREHR	r4rircarehr:w4 hours/day relatives help R with IADLs	Cont
1	S1RIRCAREHR	s1rircarehr:w1 hours/day relatives help S with IADLs	Cont
2	S2RIRCAREHR	s2rircarehr:w2 hours/day relatives help S with IADLs	Cont
3	S3RIRCAREHR	s3rircarehr:w3 hours/day relatives help S with IADLs	Cont
4	S4RIRCAREHR	s4rircarehr:w4 hours/day relatives help S with IADLs	Cont
1	R1RIRCAREHRM	r1rircarehrm:w1 R # relatives missing hours of help for IADL	Cont
2	R2RIRCAREHRM	r2rircarehrm:w2 R # relatives missing hours of help for IADL	Cont
3	R3RIRCAREHRM	r3rircarehrm:w3 R # relatives missing hours of help for IADL	Cont
4	R4RIRCAREHRM	r4rircarehrm:w4 R # relatives missing hours of help for IADL	Cont
1	S1RIRCAREHRM	s1rircarehrm:w1 S # relatives missing hours of help for IADL	Cont
2	S2RIRCAREHRM	s2rircarehrm:w2 S # relatives missing hours of help for IADL	Cont

3 S3RIRCAREHRM s3rircarehrm:w3 S # relatives missing hours of help for IADL Cont  
 4 S4RIRCAREHRM s4rircarehrm:w4 S # relatives missing hours of help for IADL Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIRCARE	1417	0.04	0.19	0.00	1.00
R2RIRCARE	1300	0.00	0.03	0.00	1.00
R3RIRCARE	1663	0.04	0.20	0.00	1.00
R4RIRCARE	1887	0.04	0.19	0.00	1.00
S1RIRCARE	950	0.01	0.12	0.00	1.00
S2RIRCARE	796	0.00	0.00	0.00	0.00
S3RIRCARE	931	0.01	0.11	0.00	1.00
S4RIRCARE	969	0.01	0.08	0.00	1.00
R1RIRCAREN	1417	0.04	0.24	0.00	3.00
R2RIRCAREN	1300	0.00	0.03	0.00	1.00
R3RIRCAREN	1663	0.05	0.25	0.00	4.00
R4RIRCAREN	1887	0.04	0.24	0.00	3.00
S1RIRCAREN	950	0.02	0.14	0.00	2.00
S2RIRCAREN	796	0.00	0.00	0.00	0.00
S3RIRCAREN	931	0.01	0.13	0.00	2.00
S4RIRCAREN	969	0.01	0.10	0.00	2.00
R1RIRCAREDPM	1417	0.95	5.99	0.00	90.00
R2RIRCAREDPM	1300	0.02	0.83	0.00	30.00
R3RIRCAREDPM	1663	0.90	5.67	0.00	90.00
R4RIRCAREDPM	1886	0.84	5.53	0.00	90.00
S1RIRCAREDPM	950	0.36	3.57	0.00	60.00
S2RIRCAREDPM	796	0.00	0.00	0.00	0.00
S3RIRCAREDPM	931	0.28	3.05	0.00	60.00
S4RIRCAREDPM	969	0.17	2.56	0.00	60.00
R1RIRCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RIRCAREDPMM	1300	0.00	0.00	0.00	0.00
R3RIRCAREDPMM	1663	0.00	0.00	0.00	0.00
R4RIRCAREDPMM	1887	0.00	0.02	0.00	1.00
S1RIRCAREDPMM	950	0.00	0.00	0.00	0.00
S2RIRCAREDPMM	796	0.00	0.00	0.00	0.00
S3RIRCAREDPMM	931	0.00	0.00	0.00	0.00
S4RIRCAREDPMM	969	0.00	0.00	0.00	0.00
R1RIRCAREHR	1417	0.25	1.89	0.00	25.00
R2RIRCAREHR	1300	0.00	0.03	0.00	1.00
R3RIRCAREHR	1660	0.29	2.12	0.00	39.00
R4RIRCAREHR	1886	0.18	1.32	0.00	23.00
S1RIRCAREHR	950	0.17	1.75	0.00	25.00
S2RIRCAREHR	796	0.00	0.00	0.00	0.00
S3RIRCAREHR	931	0.12	1.46	0.00	24.00
S4RIRCAREHR	969	0.05	0.82	0.00	21.00
R1RIRCAREHRM	1417	0.00	0.00	0.00	0.00
R2RIRCAREHRM	1300	0.00	0.00	0.00	0.00
R3RIRCAREHRM	1663	0.00	0.04	0.00	1.00
R4RIRCAREHRM	1887	0.00	0.02	0.00	1.00
S1RIRCAREHRM	950	0.00	0.00	0.00	0.00

S2RIRCAREHRM	796	0.00	0.00	0.00	0.00
S3RIRCAREHRM	931	0.00	0.00	0.00	0.00
S4RIRCAREHRM	969	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RIRCARE	R2RIRCARE	R3RIRCARE	R4RIRCARE
.d:DK			1	5
.h:no help received	267	204	658	605
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	1364	1299	1596	1820
1.Yes	53	1	67	67

Value-----	S1RIRCARE	S2RIRCARE	S3RIRCARE	S4RIRCARE
.d:DK			1	5
.h:no help received	154	202	487	406
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	937	796	919	962
1.Yes	13		12	7

## How Constructed

The following variables indicate whether any of the respondent's relatives help the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRIRCARE, RwRIRCAREN, RwRIRCAREDPM, RwRIRCAREDPMM, RwRIRCAREHR, and RwRIRCAREHRM include help from the respondent's parent or other relative.

RwRIRCARE indicates whether any of the respondent's relatives help the respondent with IADL needs. RwRIRCAREN indicates the number of the respondent's relatives who help the respondent with IADL needs. RwRIRCARE is coded as 0 if none of the respondent's relatives help the respondent with IADLS; and is coded as 1 if at least one of the respondent's relatives help the respondent with IADLS.

RwRIRCAREDPM indicates the number of total days per month the respondent's relatives help the respondent with IADL needs. If the respondent reports receiving help every day from that relative, then a value of 30 is assumed. RwRIRCAREDPM is the sum of days per month for all relative helpers, and so values can be

over 30 days. RWRIRCAREDPM is calculated as long as there is one non-missing value. RWRIRCAREDPM is assigned a value of 0 if the respondent did not receive help from any relatives. RWRIRCAREDPMM indicates the number of relatives who helped the respondent for whom no value of days was reported and was not accounted for in RWRIRCAREDPM. RWRIRCAREDPMM is assigned special missing value .m if the respondent was not helped by any relatives.

RWRIRCAREHR indicates the number of hours per day the respondent's relatives help the respondent with IADL needs. Respondents are asked, on days their relatives help, how many hours per day that is. If the respondent reports less than an hour for that relative, then a 1 is assumed. RWRIRCAREHR is the sum of hours per day for all relative helpers, and so values can be over 24 hours. RWRIRCAREHR is calculated as long as there is one non-missing value. RWRIRCAREHR is assigned a value of 0 if the respondent did not receive help from any relatives. RWRIRCAREHRM indicates the number of relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RWRIRCAREHR. RWRIRCAREHRM is assigned special missing value .m if the respondent was not helped by any relatives.

SWRIRCARE, SWRIRCAREN, SWRIRCAREDPM, and SWRIRCAREHR indicate whether the respondent's current wave's spouse receives help from relatives, the number, and the frequency with which, and their values are taken from RWRIRCARE, RWRIRCAREN, RWRIRCAREDPM, and RWRIRCAREHR. SWRIRCAREDPMM and SWRIRCAREHRM indicate the number of relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRIRCAREDPMM and RWRIRCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RWRIRCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRIRCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps

H27D spouse helps  
 H27E additional person helps  
 H28D spouse helps  
 H28E additional person helps  
 H29D spouse helps  
 H29E additional person helps

## Wave 3:

H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs  
 H32\_7\_12 Relationship with helper for IADLs  
 H32\_8\_12 Relationship with helper for IADLs  
 H33\_1\_12 Registration number of helper for IADLs  
 H33\_2\_12 Registration number of helper for ADLs  
 H33\_3\_12 Registration number of helper for IADLs  
 H33\_4\_12 Registration number of helper for IADLs  
 H33\_5\_12 Registration number of helper for IADLs  
 H33\_6\_12 Registration number of helper for IADLs  
 H33\_7\_12 Registration number of helper for IADLs  
 H33\_8\_12 Registration number of helper for IADLs  
 H34\_1\_12 Number of days (name) helped last month  
 H34\_2\_12 Number of days (name) helped last month  
 H34\_3\_12 Number of days (name) helped last month  
 H34\_4\_12 Number of days (name) helped last month  
 H34\_5\_12 Number of days (name) helped last month  
 H34\_6\_12 Number of days (name) helped last month  
 H34\_7\_12 Number of days (name) helped last month  
 H34\_8\_12 Number of days (name) helped last month  
 H35\_1\_12 Number of hours during those days (NAME) helped  
 H35\_2\_12 Number of hours during those days (NAME) helped  
 H35\_3\_12 Number of hours during those days (NAME) helped  
 H35\_4\_12 Number of hours during those days (NAME) helped  
 H35\_5\_12 Number of hours during those days (NAME) helped  
 H35\_6\_12 Number of hours during those days (NAME) helped  
 H35\_7\_12 Number of hours during those days (NAME) helped  
 H35\_8\_12 Number of hours during those days (NAME) helped

## Wave 4:

H26C\_15 Does someone help respondent to prepare a hot meal  
 H27C\_15 Does someone help respondent to shop for groceries  
 H28C\_15 Does someone help respondent to take medications  
 H29C\_15 Does someone help respondent to manage his/her money  
 H32\_1\_15 Respondent's relationship with person helping with IADL  
 H32\_2\_15 Respondent's relationship with person helping with IADL  
 H32\_3\_15 Respondent's relationship with person helping with IADL  
 H32\_4\_15 Respondent's relationship with person helping with IADL  
 H32\_5\_15 Respondent's relationship with person helping with IADL  
 H32\_6\_15 Respondent's relationship with person helping with IADL  
 H32\_7\_15 Respondent's relationship with person helping with IADL  
 H32\_8\_15 Respondent's relationship with person helping with IADL  
 H33\_1\_15 Registration number of person helping with IADLs  
 H33\_2\_15 Registration number of person helping with IADLs  
 H33\_3\_15 Registration number of person helping with IADLs  
 H33\_4\_15 Registration number of person helping with IADLs  
 H33\_5\_15 Registration number of person helping with IADLs  
 H33\_6\_15 Registration number of person helping with IADLs  
 H33\_7\_15 Registration number of person helping with IADLs

H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

<b>Instrumental Activities of Daily Living: Receives Informal Care from Other Individuals</b>
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Wave	Variable	Label	Type
1	R1RIFCARE	r1rifcare:w1 R receives informal care from non-relatives for	Categ
2	R2RIFCARE	r2rifcare:w2 R receives informal care from non-relatives for	Categ
3	R3RIFCARE	r3rifcare:w3 R receives informal care from non-relatives for	Categ
4	R4RIFCARE	r4rifcare:w4 R receives informal care from non-relatives for	Categ
1	S1RIFCARE	s1rifcare:w1 S receives informal care from non-relatives for	Categ
2	S2RIFCARE	s2rifcare:w2 S receives informal care from non-relatives for	Categ
3	S3RIFCARE	s3rifcare:w3 S receives informal care from non-relatives for	Categ
4	S4RIFCARE	s4rifcare:w4 S receives informal care from non-relatives for	Categ
1	R1RIFCAREN	r1rifcaren:w1 # non-relatives who help R with IADLs	Cont
2	R2RIFCAREN	r2rifcaren:w2 # non-relatives who help R with IADLs	Cont
3	R3RIFCAREN	r3rifcaren:w3 # non-relatives who help R with IADLs	Cont
4	R4RIFCAREN	r4rifcaren:w4 # non-relatives who help R with IADLs	Cont
1	S1RIFCAREN	s1rifcaren:w1 # non-relatives who help S with IADLs	Cont
2	S2RIFCAREN	s2rifcaren:w2 # non-relatives who help S with IADLs	Cont
3	S3RIFCAREN	s3rifcaren:w3 # non-relatives who help S with IADLs	Cont
4	S4RIFCAREN	s4rifcaren:w4 # non-relatives who help S with IADLs	Cont
1	R1RIFCAREDPM	r1rifcaredpm:w1 days/month non-relatives help R with IADLs	Cont
2	R2RIFCAREDPM	r2rifcaredpm:w2 days/month non-relatives help R with IADLs	Cont
3	R3RIFCAREDPM	r3rifcaredpm:w3 days/month non-relatives help R with IADLs	Cont
4	R4RIFCAREDPM	r4rifcaredpm:w4 days/month non-relatives help R with IADLs	Cont
1	S1RIFCAREDPM	s1rifcaredpm:w1 days/month non-relatives help S with IADLs	Cont
2	S2RIFCAREDPM	s2rifcaredpm:w2 days/month non-relatives help S with IADLs	Cont
3	S3RIFCAREDPM	s3rifcaredpm:w3 days/month non-relatives help S with IADLs	Cont
4	S4RIFCAREDPM	s4rifcaredpm:w4 days/month non-relatives help S with IADLs	Cont
1	R1RIFCAREDPMM	r1rifcaredpmm:w1 R # non-relatives missing days of help for	Cont
2	R2RIFCAREDPMM	r2rifcaredpmm:w2 R # non-relatives missing days of help for	Cont
3	R3RIFCAREDPMM	r3rifcaredpmm:w3 R # non-relatives missing days of help for	Cont
4	R4RIFCAREDPMM	r4rifcaredpmm:w4 R # non-relatives missing days of help for	Cont
1	S1RIFCAREDPMM	s1rifcaredpmm:w1 S # non-relatives missing days of help for	Cont
2	S2RIFCAREDPMM	s2rifcaredpmm:w2 S # non-relatives missing days of help for	Cont
3	S3RIFCAREDPMM	s3rifcaredpmm:w3 S # non-relatives missing days of help for	Cont
4	S4RIFCAREDPMM	s4rifcaredpmm:w4 S # non-relatives missing days of help for	Cont
1	R1RIFCAREHR	r1rifcarehr:w1 hours/day non-relatives help R with IADLs	Cont
2	R2RIFCAREHR	r2rifcarehr:w2 hours/day non-relatives help R with IADLs	Cont
3	R3RIFCAREHR	r3rifcarehr:w3 hours/day non-relatives help R with IADLs	Cont
4	R4RIFCAREHR	r4rifcarehr:w4 hours/day non-relatives help R with IADLs	Cont
1	S1RIFCAREHR	s1rifcarehr:w1 hours/day non-relatives help S with IADLs	Cont
2	S2RIFCAREHR	s2rifcarehr:w2 hours/day non-relatives help S with IADLs	Cont
3	S3RIFCAREHR	s3rifcarehr:w3 hours/day non-relatives help S with IADLs	Cont
4	S4RIFCAREHR	s4rifcarehr:w4 hours/day non-relatives help S with IADLs	Cont
1	R1RIFCAREHRM	r1rifcarehrm:w1 R # non-relatives missing hours of help for	Cont
2	R2RIFCAREHRM	r2rifcarehrm:w2 R # non-relatives missing hours of help for	Cont
3	R3RIFCAREHRM	r3rifcarehrm:w3 R # non-relatives missing hours of help for	Cont
4	R4RIFCAREHRM	r4rifcarehrm:w4 R # non-relatives missing hours of help for	Cont
1	S1RIFCAREHRM	s1rifcarehrm:w1 S # non-relatives missing hours of help for	Cont
2	S2RIFCAREHRM	s2rifcarehrm:w2 S # non-relatives missing hours of help for	Cont



3 S3RIFCAREHRM s3rifcarehrm:w3 S # non-relatives missing hours of help for Cont  
 4 S4RIFCAREHRM s4rifcarehrm:w4 S # non-relatives missing hours of help for Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIFCARE	1417	0.03	0.16	0.00	1.00
R2RIFCARE	1300	0.00	0.04	0.00	1.00
R3RIFCARE	1663	0.03	0.18	0.00	1.00
R4RIFCARE	1887	0.03	0.16	0.00	1.00
S1RIFCARE	950	0.01	0.09	0.00	1.00
S2RIFCARE	796	0.00	0.00	0.00	0.00
S3RIFCARE	931	0.01	0.11	0.00	1.00
S4RIFCARE	969	0.01	0.09	0.00	1.00
R1RIFCAREN	1417	0.03	0.22	0.00	4.00
R2RIFCAREN	1300	0.00	0.04	0.00	1.00
R3RIFCAREN	1663	0.04	0.21	0.00	4.00
R4RIFCAREN	1887	0.03	0.17	0.00	2.00
S1RIFCAREN	950	0.01	0.11	0.00	2.00
S2RIFCAREN	796	0.00	0.00	0.00	0.00
S3RIFCAREN	931	0.01	0.11	0.00	1.00
S4RIFCAREN	969	0.01	0.09	0.00	1.00
R1RIFCAREDPM	1417	0.76	5.83	0.00	120.00
R2RIFCAREDPM	1300	0.05	1.18	0.00	30.00
R3RIFCAREDPM	1663	0.69	4.36	0.00	42.00
R4RIFCAREDPM	1886	0.38	3.05	0.00	34.00
S1RIFCAREDPM	950	0.17	2.29	0.00	46.00
S2RIFCAREDPM	796	0.00	0.00	0.00	0.00
S3RIFCAREDPM	931	0.15	1.82	0.00	30.00
S4RIFCAREDPM	969	0.14	1.95	0.00	30.00
R1RIFCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RIFCAREDPMM	1300	0.00	0.00	0.00	0.00
R3RIFCAREDPMM	1663	0.00	0.00	0.00	0.00
R4RIFCAREDPMM	1887	0.00	0.02	0.00	1.00
S1RIFCAREDPMM	950	0.00	0.00	0.00	0.00
S2RIFCAREDPMM	796	0.00	0.00	0.00	0.00
S3RIFCAREDPMM	931	0.00	0.00	0.00	0.00
S4RIFCAREDPMM	969	0.00	0.00	0.00	0.00
R1RIFCAREHR	1417	0.10	0.93	0.00	24.00
R2RIFCAREHR	1300	0.01	0.33	0.00	12.00
R3RIFCAREHR	1662	0.14	1.25	0.00	24.00
R4RIFCAREHR	1886	0.11	0.98	0.00	24.00
S1RIFCAREHR	950	0.03	0.39	0.00	10.00
S2RIFCAREHR	796	0.00	0.00	0.00	0.00
S3RIFCAREHR	930	0.04	0.49	0.00	10.00
S4RIFCAREHR	969	0.03	0.43	0.00	12.00
R1RIFCAREHRM	1417	0.00	0.00	0.00	0.00
R2RIFCAREHRM	1300	0.00	0.00	0.00	0.00
R3RIFCAREHRM	1663	0.00	0.02	0.00	1.00
R4RIFCAREHRM	1887	0.00	0.02	0.00	1.00
S1RIFCAREHRM	950	0.00	0.00	0.00	0.00

S2RIFCAREHRM	796	0.00	0.00	0.00	0.00
S3RIFCAREHRM	931	0.00	0.03	0.00	1.00
S4RIFCAREHRM	969	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RIFCARE	R2RIFCARE	R3RIFCARE	R4RIFCARE
.d:DK			1	5
.h:no help received	267	204	658	605
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	1378	1298	1605	1837
1.Yes	39	2	58	50

Value-----	S1RIFCARE	S2RIFCARE	S3RIFCARE	S4RIFCARE
.d:DK			1	5
.h:no help received	154	202	487	406
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	942	796	919	961
1.Yes	8		12	8

## How Constructed

The following variables indicate whether any non-relative helps the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRIFCARE, RwRIFCAREN, RwRIFCAREDPM, RwRIFCAREDPMM, RwRIFCAREHR, and RwRIFCAREHRM include help from another person (not their spouse, child, child-in-law, grandchild, parent, other relative, or paid person).

RwRIFCARE indicates whether any of the respondent's non-relatives help the respondent with IADL needs. RwRIFCAREN indicates the number of the respondent's non-relatives who help the respondent with IADL needs. RwRIFCARE is coded as 0 if none of the respondent's non-relatives help the respondent with IADLs; and is coded as 1 if at least one of the respondent's non-relatives help the respondent with IADLs.

RwRIFCAREDPM indicates the number of total days per month the respondent's non-relatives help the respondent with IADL needs. If the respondent reports receiving help every day from that non-relative,

then a value of 30 is assumed. RWRIFCAREDPM is the sum of days per month for all non-relative helpers, and so values can be over 30 days. RWRIFCAREDPM is calculated as long as there is one non-missing value. RWRIFCAREDPM is assigned a value of 0 if the respondent did not receive help from any non-relatives. RWRIFCAREDPMM indicates the number of non-relatives who helped the respondent for whom no value of days was reported and was not accounted for in RWRIFCAREDPM. RWRIFCAREDPMM is assigned special missing value .m if the respondent was not helped by any non-relatives.

RWRIFCAREHR indicates the number of hours per day the respondent's non-relatives help the respondent with IADL needs. Respondents are asked, on days their non-relatives help, how many hours per day that is. If the respondent reports less than an hour for that non-relative, then a 1 is assumed. RWRIFCAREHR is the sum of hours per day for all non-relative helpers, and so values can be over 24 hours. RWRIFCAREHR is calculated as long as there is one non-missing value. RWRIFCAREHR is assigned a value of 0 if the respondent did not receive help from any non-relatives. RWRIFCAREHRM indicates the number of non-relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RWRIFCAREHR. RWRIFCAREHRM is assigned special missing value .m if the respondent was not helped by any non-relatives.

SWRIFCARE, SWRIFCAREN, SWRIFCAREDPM, and SWRIFCAREHR indicate whether the respondent's current wave's spouse receives help from non-relatives, the number, and the frequency with which, and their values are taken from RWRIFCARE, RWRIFCAREN, RWRIFCAREDPM, and RWRIFCAREHR. SWRIFCAREDPMM and SWRIFCAREHRM indicate the number of non-relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRIFCAREDPMM and RWRIFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

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RWRIFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRIFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

## Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs

H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

### Instrumental Activities of Daily Living: Whether Receives Any Formal Care

Wave	Variable	Label	Type
1	R1RIFAANY	rlrifaany:w1 R receives any formal care for IADLs	Categ
2	R2RIFAANY	r2rifaany:w2 R receives any formal care for IADLs	Categ
3	R3RIFAANY	r3rifaany:w3 R receives any formal care for IADLs	Categ
4	R4RIFAANY	r4rifaany:w4 R receives any formal care for IADLs	Categ
1	S1RIFAANY	slrifaany:w1 S receives any formal care for IADLs	Categ
2	S2RIFAANY	s2rifaany:w2 S receives any formal care for IADLs	Categ
3	S3RIFAANY	s3rifaany:w3 S receives any formal care for IADLs	Categ
4	S4RIFAANY	s4rifaany:w4 S receives any formal care for IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIFAANY	1684	0.02	0.14	0.00	1.00
R2RIFAANY	1504	0.00	0.04	0.00	1.00
R3RIFAANY	2321	0.02	0.13	0.00	1.00
R4RIFAANY	2492	0.02	0.13	0.00	1.00
S1RIFAANY	1104	0.01	0.09	0.00	1.00
S2RIFAANY	998	0.00	0.00	0.00	0.00
S3RIFAANY	1418	0.01	0.10	0.00	1.00
S4RIFAANY	1375	0.00	0.07	0.00	1.00

### Categorical Variable Codes

Value-----	R1RIFAANY	R2RIFAANY	R3RIFAANY	R4RIFAANY
.d:DK			1	5
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	1649	1502	2281	2449
1.Yes	35	2	40	43

Value-----	S1RIFAANY	S2RIFAANY	S3RIFAANY	S4RIFAANY
.d:DK			1	5
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	1094	998	1403	1369
1.Yes	10		15	6

### How Constructed

RwRIFAANY indicates whether the respondent receives any informal care for difficulties with instrumental activities of daily living (IADL). The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The following relationship is considered to provide formal care: paid person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees

with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRIFAANY is assigned a value of 0 if the respondent has difficulty with at least one IADL but receives no help with the activity from a formal caregiver, or does not receive any help at all. RwRIFAANY is assigned a value of 1 if the respondent has difficulty with at least one IADL and a formal caregiver helps with at least one of the activities. RwRIFAANY is assigned special missing value .x if the respondent has no difficulty with any IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRIFAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRIFAANY indicates whether the respondent's current wave's spouse receives any formal care for difficulties with IADLs, and its values are taken from RwRIFAANY. In addition to the special missing codes employed by RwRIFAANY, SwRIFAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. Please note that the Harmonized HRS includes categories for paid formal helpers and unpaid formal helpers, while the Harmonized MHAS only includes categories for paid formal helpers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRIFAANY in the Harmonized HRS includes help using the telephone, whereas RwRIFAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H32	kinship of helper
H33	roster number of helper

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps

H29E	additional person helps
Wave 2 Helper:	
H32	relationship
H33	registration number
Wave 3:	
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
Wave 4:	
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs



<b>Instrumental Activities of Daily Living: Receives Formal Care from Paid Professional</b>
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Wave	Variable	Label	Type
1	R1RIPFCARE	r1ripfcare:w1 R receives formal care from paid professional	Categ
2	R2RIPFCARE	r2ripfcare:w2 R receives formal care from paid professional	Categ
3	R3RIPFCARE	r3ripfcare:w3 R receives formal care from paid professional	Categ
4	R4RIPFCARE	r4ripfcare:w4 R receives formal care from paid professional	Categ
1	S1RIPFCARE	s1ripfcare:w1 S receives formal care from paid professional	Categ
2	S2RIPFCARE	s2ripfcare:w2 S receives formal care from paid professional	Categ
3	S3RIPFCARE	s3ripfcare:w3 S receives formal care from paid professional	Categ
4	S4RIPFCARE	s4ripfcare:w4 S receives formal care from paid professional	Categ
1	R1RIPFCAREN	r1ripfcaren:w1 # paid professionals who help R with IADLs	Cont
2	R2RIPFCAREN	r2ripfcaren:w2 # paid professionals who help R with IADLs	Cont
3	R3RIPFCAREN	r3ripfcaren:w3 # paid professionals who help R with IADLs	Cont
4	R4RIPFCAREN	r4ripfcaren:w4 # paid professionals who help R with IADLs	Cont
1	S1RIPFCAREN	s1ripfcaren:w1 # paid professionals who help S with IADLs	Cont
2	S2RIPFCAREN	s2ripfcaren:w2 # paid professionals who help S with IADLs	Cont
3	S3RIPFCAREN	s3ripfcaren:w3 # paid professionals who help S with IADLs	Cont
4	S4RIPFCAREN	s4ripfcaren:w4 # paid professionals who help S with IADLs	Cont
1	R1RIPFCAREDPM	r1ripfcaredpm:w1 days/month paid professionals help R with I	Cont
2	R2RIPFCAREDPM	r2ripfcaredpm:w2 days/month paid professionals help R with I	Cont
3	R3RIPFCAREDPM	r3ripfcaredpm:w3 days/month paid professionals help R with I	Cont
4	R4RIPFCAREDPM	r4ripfcaredpm:w4 days/month paid professionals help R with I	Cont
1	S1RIPFCAREDPM	s1ripfcaredpm:w1 days/month paid professionals help S with I	Cont
2	S2RIPFCAREDPM	s2ripfcaredpm:w2 days/month paid professionals help S with I	Cont
3	S3RIPFCAREDPM	s3ripfcaredpm:w3 days/month paid professionals help S with I	Cont
4	S4RIPFCAREDPM	s4ripfcaredpm:w4 days/month paid professionals help S with I	Cont
1	R1RIPFCAREDPMM	r1ripfcaredpmm:w1 R # paid professionals missing days of hel	Cont
2	R2RIPFCAREDPMM	r2ripfcaredpmm:w2 R # paid professionals missing days of hel	Cont
3	R3RIPFCAREDPMM	r3ripfcaredpmm:w3 R # paid professionals missing days of hel	Cont
4	R4RIPFCAREDPMM	r4ripfcaredpmm:w4 R # paid professionals missing days of hel	Cont
1	S1RIPFCAREDPMM	s1ripfcaredpmm:w1 S # paid professionals missing days of hel	Cont
2	S2RIPFCAREDPMM	s2ripfcaredpmm:w2 S # paid professionals missing days of hel	Cont
3	S3RIPFCAREDPMM	s3ripfcaredpmm:w3 S # paid professionals missing days of hel	Cont
4	S4RIPFCAREDPMM	s4ripfcaredpmm:w4 S # paid professionals missing days of hel	Cont
1	R1RIPFCAREHR	r1ripfcarehr:w1 hours/day paid professionals help R with IAD	Cont
2	R2RIPFCAREHR	r2ripfcarehr:w2 hours/day paid professionals help R with IAD	Cont
3	R3RIPFCAREHR	r3ripfcarehr:w3 hours/day paid professionals help R with IAD	Cont
4	R4RIPFCAREHR	r4ripfcarehr:w4 hours/day paid professionals help R with IAD	Cont
1	S1RIPFCAREHR	s1ripfcarehr:w1 hours/day paid professionals help S with IAD	Cont
2	S2RIPFCAREHR	s2ripfcarehr:w2 hours/day paid professionals help S with IAD	Cont
3	S3RIPFCAREHR	s3ripfcarehr:w3 hours/day paid professionals help S with IAD	Cont
4	S4RIPFCAREHR	s4ripfcarehr:w4 hours/day paid professionals help S with IAD	Cont
1	R1RIPFCAREHRM	r1ripfcarehrm:w1 R # paid professionals missing hours of hel	Cont
2	R2RIPFCAREHRM	r2ripfcarehrm:w2 R # paid professionals missing hours of hel	Cont
3	R3RIPFCAREHRM	r3ripfcarehrm:w3 R # paid professionals missing hours of hel	Cont
4	R4RIPFCAREHRM	r4ripfcarehrm:w4 R # paid professionals missing hours of hel	Cont
1	S1RIPFCAREHRM	s1ripfcarehrm:w1 S # paid professionals missing hours of hel	Cont
2	S2RIPFCAREHRM	s2ripfcarehrm:w2 S # paid professionals missing hours of hel	Cont

3 S3RIPFCAREHRM s3ripfcarehrm:w3 S # paid professionals missing hours of hel Cont  
 4 S4RIPFCAREHRM s4ripfcarehrm:w4 S # paid professionals missing hours of hel Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIPFCARE	1417	0.02	0.16	0.00	1.00
R2RIPFCARE	1300	0.00	0.04	0.00	1.00
R3RIPFCARE	1663	0.02	0.15	0.00	1.00
R4RIPFCARE	1887	0.02	0.15	0.00	1.00
S1RIPFCARE	950	0.01	0.10	0.00	1.00
S2RIPFCARE	796	0.00	0.00	0.00	0.00
S3RIPFCARE	931	0.02	0.13	0.00	1.00
S4RIPFCARE	969	0.01	0.08	0.00	1.00
R1RIPFCAREN	1417	0.02	0.16	0.00	1.00
R2RIPFCAREN	1300	0.00	0.04	0.00	1.00
R3RIPFCAREN	1663	0.03	0.16	0.00	2.00
R4RIPFCAREN	1887	0.02	0.15	0.00	2.00
S1RIPFCAREN	950	0.01	0.10	0.00	1.00
S2RIPFCAREN	796	0.00	0.00	0.00	0.00
S3RIPFCAREN	931	0.02	0.13	0.00	1.00
S4RIPFCAREN	969	0.01	0.08	0.00	1.00
R1RIPFCAREDPM	1417	0.65	4.22	0.00	30.00
R2RIPFCAREDPM	1300	0.05	1.18	0.00	30.00
R3RIPFCAREDPM	1662	0.47	3.63	0.00	60.00
R4RIPFCAREDPM	1887	0.47	3.59	0.00	60.00
S1RIPFCAREDPM	950	0.29	2.81	0.00	30.00
S2RIPFCAREDPM	796	0.00	0.00	0.00	0.00
S3RIPFCAREDPM	931	0.29	2.63	0.00	30.00
S4RIPFCAREDPM	969	0.15	1.99	0.00	30.00
R1RIPFCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RIPFCAREDPMM	1300	0.00	0.00	0.00	0.00
R3RIPFCAREDPMM	1663	0.00	0.02	0.00	1.00
R4RIPFCAREDPMM	1887	0.00	0.00	0.00	0.00
S1RIPFCAREDPMM	950	0.00	0.00	0.00	0.00
S2RIPFCAREDPMM	796	0.00	0.00	0.00	0.00
S3RIPFCAREDPMM	931	0.00	0.00	0.00	0.00
S4RIPFCAREDPMM	969	0.00	0.00	0.00	0.00
R1RIPFCAREHR	1417	0.21	1.63	0.00	24.00
R2RIPFCAREHR	1300	0.01	0.29	0.00	8.00
R3RIPFCAREHR	1663	0.20	1.53	0.00	24.00
R4RIPFCAREHR	1887	0.16	1.24	0.00	24.00
S1RIPFCAREHR	950	0.07	0.73	0.00	12.00
S2RIPFCAREHR	796	0.00	0.00	0.00	0.00
S3RIPFCAREHR	931	0.14	1.24	0.00	24.00
S4RIPFCAREHR	969	0.02	0.29	0.00	5.00
R1RIPFCAREHRM	1417	0.00	0.00	0.00	0.00
R2RIPFCAREHRM	1300	0.00	0.00	0.00	0.00
R3RIPFCAREHRM	1663	0.00	0.00	0.00	0.00
R4RIPFCAREHRM	1887	0.00	0.00	0.00	0.00
S1RIPFCAREHRM	950	0.00	0.00	0.00	0.00

S2RIPFCAREHRM	796	0.00	0.00	0.00	0.00
S3RIPFCAREHRM	931	0.00	0.00	0.00	0.00
S4RIPFCAREHRM	969	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RIPFCARE	R2RIPFCARE	R3RIPFCARE	R4RIPFCARE
.d:DK			1	5
.h:no help received	267	204	658	605
.m:Missing	38	30		40
.p:Proxy interview, not asked	1032	1161	1275	929
.r:Refuse	13	1	1	1
.x:no difficulty	12419	11008	12125	11312
0.No	1382	1298	1623	1844
1.Yes	35	2	40	43

Value-----	S1RIPFCARE	S2RIPFCARE	S3RIPFCARE	S4RIPFCARE
.d:DK			1	5
.h:no help received	154	202	487	406
.m:Missing	13	6		10
.p:Proxy interview, not asked	660	814	726	470
.r:Refuse	8	1		
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8863	7745	8447	7792
0.No	940	796	916	963
1.Yes	10		15	6

## How Constructed

The following variables indicate whether paid formal caregivers help the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRIPFCARE, RwRIPFCAREN, RwRIPFCAREDP, RwRIPFCAREDPMM, RwRIPFCAREHR, and RwRIPFCAREHRM include help from a paid person.

RwRIPFCARE indicates whether any paid professionals help the respondent with IADL needs. RwRIPFCAREN indicates the number of paid professionals who help the respondent with IADL needs. RwRIPFCARE is coded as 0 if no paid professionals help the respondent with IADLs; and is coded as 1 if at least one paid professional helps the respondent with IADLs.

RwRIPFCAREDP indicates the number of total days per month paid professionals help the respondent with IADL needs. If the respondent reports receiving help every day from that paid professional, then a value of 30 is assumed. RwRIPFCAREDP is the sum of days per month for all paid professional helpers, and so

values can be over 30 days. RWRIPFCAREDPM is calculated as long as there is one non-missing value. RWRIPFCAREDPM is assigned a value of 0 if the respondent did not receive help from any paid professionals. RWRIPFCAREDPMM indicates the number of paid professionals who helped the respondent for whom no value of days was reported and was not accounted for in RWRIPFCAREDPM. RWRIPFCAREDPMM is assigned special missing value .m if the respondent was not helped by any paid professionals.

RWRIPFCAREHR indicates the number of hours per day paid professionals help the respondent with IADL needs. Respondents are asked, on days paid professionals help, how many hours per day that is. If the respondent reports less than an hour for that paid professional, then a 1 is assumed. RWRIPFCAREHR is the sum of hours per day for all paid professional helpers, and so values can be over 24 hours. RWRIPFCAREHR is calculated as long as there is one non-missing value. RWRIPFCAREHR is assigned a value of 0 if the respondent did not receive help from any paid professionals. RWRIPFCAREHRM indicates the number of paid professionals who helped the respondent for whom no value of hours was reported and was not accounted for in RWRIPFCAREHR. RWRIPFCAREHRM is assigned special missing value .m if the respondent was not helped by any paid professionals.

SWRIPFCARE, SWRIPFCAREN, SWRIPFCAREDPM, and SWRIPFCAREHR indicate whether the respondent's current wave's spouse receives help from paid professionals, the number, and the frequency with which, and their values are taken from RWRIPFCARE, RWRIPFCAREN, RWRIPFCAREDPM, and RWRIPFCAREHR. SWRIPFCAREDPMM and SWRIPFCAREHRM indicate the number of paid professionals who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRIPFCAREDPMM and RWRIPFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RWRIPFCARE in the Harmonized MHAS is also comparable to RWRIFAANY in the Harmonized HRS, indicating any formal care for IADLs, because the MHAS does not have a category for unpaid formal caregivers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RWRIPFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRIPFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money

H29_4	someone helps with managing money
Wave 1 Helper:	
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help
Wave 2:	
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL

H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

### Activites of Daily Living and Instrumental Activities of Daily Living: Whether Receives Any Care

Wave	Variable	Label	Type
1	R1RCANY	r1rcany:w1 R receives any care for ADLs/IADLs	Categ
2	R2RCANY	r2rcany:w2 R receives any care for ADLs/IADLs	Categ
3	R3RCANY	r3rcany:w3 R receives any care for ADLs/IADLs	Categ
4	R4RCANY	r4rcany:w4 R receives any care for ADLs/IADLs	Categ
1	S1RCANY	s1rcany:w1 S receives any care for ADLs/IADLs	Categ
2	S2RCANY	s2rcany:w2 S receives any care for ADLs/IADLs	Categ
3	S3RCANY	s3rcany:w3 S receives any care for ADLs/IADLs	Categ
4	S4RCANY	s4rcany:w4 S receives any care for ADLs/IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RCANY	2586	0.69	0.46	0.00	1.00
R2RCANY	2395	0.69	0.46	0.00	1.00
R3RCANY	4089	0.57	0.50	0.00	1.00
R4RCANY	4182	0.60	0.49	0.00	1.00
S1RCANY	1649	0.70	0.46	0.00	1.00
S2RCANY	1508	0.68	0.47	0.00	1.00
S3RCANY	2464	0.51	0.50	0.00	1.00
S4RCANY	2349	0.54	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1RCANY	R2RCANY	R3RCANY	R4RCANY
.d:DK	1		1	6
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	812	732	1771	1666
1.Yes	1774	1663	2318	2516

Value-----	S1RCANY	S2RCANY	S3RCANY	S4RCANY
.d:DK			1	5
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	501	489	1213	1072
1.Yes	1148	1019	1251	1277

### How Constructed

RwRCANY indicates whether the respondent receives any care for difficulties with activities of daily living (ADL) and/or instrumental activities of daily living (IADL). If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. RwRCANY is assigned a value of 0 if the respondent has difficulty with at least one ADL or IADL but receives no help with the activity. RwRCANY is assigned a value of 1 if the respondent has difficulty with at least one ADL or IADL and someone helps with at least one of the activities. RwRCANY is assigned special missing value .x if the respondent has no difficulty with any ADLs or IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRCANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRCANY indicates whether the respondent's current wave's spouse receives any care for difficulties with ADLs or IADLs, and its values are taken from RwRCANY. In addition to the special missing codes employed by RwRCANY, SwRCANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, if the respondent reports that they "can't do" or "don't do" the activity or if they have difficulty that is not the result of a health or memory problem, then they are not asked whether they receive help with that activity. Respondents in the MHAS, however, are asked whether they receive help with the activity if they report that they "can't do", "don't do", or have difficulty with the activity, regardless of whether it is the result of a health or memory problem.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRCANY in the Harmonized HRS includes help using the telephone, whereas RwRCANY in the Harmonized HRS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps



H28E additional person helps  
 H29D spouse helps  
 H29E additional person helps

## Wave 3:

H14\_12 Someone help you to get dressed  
 H15D\_12 Someone help you walk across room  
 H16D\_12 Someone help you to bathe or shower  
 H17D\_12 Does someone help you eat your food  
 H18D\_12 Does someone help you get into or out of bed  
 H19D\_12 Does someone help you use toilet, get on off  
 H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs  
 H32\_7\_12 Relationship with helper for IADLs  
 H32\_8\_12 Relationship with helper for IADLs  
 H33\_1\_12 Registration number of helper for IADLs  
 H33\_2\_12 Registration number of helper for ADLs  
 H33\_3\_12 Registration number of helper for IADLs  
 H33\_4\_12 Registration number of helper for IADLs  
 H33\_5\_12 Registration number of helper for IADLs  
 H33\_6\_12 Registration number of helper for IADLs  
 H33\_7\_12 Registration number of helper for IADLs  
 H33\_8\_12 Registration number of helper for IADLs  
 H34\_1\_12 Number of days (name) helped last month  
 H34\_2\_12 Number of days (name) helped last month  
 H34\_3\_12 Number of days (name) helped last month  
 H34\_4\_12 Number of days (name) helped last month  
 H34\_5\_12 Number of days (name) helped last month  
 H34\_6\_12 Number of days (name) helped last month  
 H34\_7\_12 Number of days (name) helped last month  
 H34\_8\_12 Number of days (name) helped last month  
 H35\_1\_12 Number of hours during those days (NAME) helped  
 H35\_2\_12 Number of hours during those days (NAME) helped  
 H35\_3\_12 Number of hours during those days (NAME) helped  
 H35\_4\_12 Number of hours during those days (NAME) helped  
 H35\_5\_12 Number of hours during those days (NAME) helped  
 H35\_6\_12 Number of hours during those days (NAME) helped  
 H35\_7\_12 Number of hours during those days (NAME) helped  
 H35\_8\_12 Number of hours during those days (NAME) helped

## Wave 4:

H14\_15 Does someone help respondent to get dressed  
 H15D\_15 Does someone help respondent walking across a room  
 H16D\_15 Does someone help respondent bathing or showering  
 H17D\_15 Does someone help respondent eating  
 H18D\_15 Does someone help respondent getting in or out of bed  
 H19D\_15 Does someone help respondent using the toilet  
 H26C\_15 Does someone help respondent to prepare a hot meal  
 H27C\_15 Does someone help respondent to shop for groceries  
 H28C\_15 Does someone help respondent to take medications  
 H29C\_15 Does someone help respondent to manage his/her money  
 H32\_1\_15 Respondent's relationship with person helping with IADL  
 H32\_2\_15 Respondent's relationship with person helping with IADL  
 H32\_3\_15 Respondent's relationship with person helping with IADL  
 H32\_4\_15 Respondent's relationship with person helping with IADL  
 H32\_5\_15 Respondent's relationship with person helping with IADL  
 H32\_6\_15 Respondent's relationship with person helping with IADL

H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helped
H35_2_15	Number of hours during those days that the person helped
H35_3_15	Number of hours during those days that the person helped
H35_4_15	Number of hours during those days that the person helped
H35_5_15	Number of hours during those days that the person helped
H35_6_15	Number of hours during those days that the person helped
H35_7_15	Number of hours during those days that the person helped
H35_8_15	Number of hours during those days that the person helped

### Activites of Daily Living and Instrumental Activities of Daily Living: Whether Receives Any Informal Care

Wave	Variable	Label	Type
1	R1RCAANY	r1rcaany:w1 R receives any informal care for ADLs/IADLs	Categ
2	R2RCAANY	r2rcaany:w2 R receives any informal care for ADLs/IADLs	Categ
3	R3RCAANY	r3rcaany:w3 R receives any informal care for ADLs/IADLs	Categ
4	R4RCAANY	r4rcaany:w4 R receives any informal care for ADLs/IADLs	Categ
1	S1RCAANY	s1rcaany:w1 S receives any informal care for ADLs/IADLs	Categ
2	S2RCAANY	s2rcaany:w2 S receives any informal care for ADLs/IADLs	Categ
3	S3RCAANY	s3rcaany:w3 S receives any informal care for ADLs/IADLs	Categ
4	S4RCAANY	s4rcaany:w4 S receives any informal care for ADLs/IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RCAANY	2586	0.66	0.47	0.00	1.00
R2RCAANY	2395	0.02	0.13	0.00	1.00
R3RCAANY	4089	0.55	0.50	0.00	1.00
R4RCAANY	4182	0.58	0.49	0.00	1.00
S1RCAANY	1649	0.67	0.47	0.00	1.00
S2RCAANY	1508	0.00	0.03	0.00	1.00
S3RCAANY	2464	0.48	0.50	0.00	1.00
S4RCAANY	2349	0.51	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1RCAANY	R2RCAANY	R3RCAANY	R4RCAANY
.d:DK	1		1	6
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	884	2353	1849	1768
1.Yes	1702	42	2240	2414

Value-----	S1RCAANY	S2RCAANY	S3RCAANY	S4RCAANY
.d:DK			1	5
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	542	1507	1275	1142
1.Yes	1107	1	1189	1207

### How Constructed

RwRCAANY indicates whether the respondent receives any informal care for difficulties with activities of daily living (ADL) and/or instrumental activities of daily living (IADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs, and up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The following relationships are considered to provide informal care: spouse, child, child-in-law, grandchild, parent, other relative, other person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRCAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL or IADL but receives no help with the activity from an informal caregiver, or does not receive any help at all. RwRCAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL or IADL and an informal caregiver helps with at least one of the activities. RwRCAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs or IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRCAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRCAANY indicates whether the respondent's current wave's spouse receives any informal care for difficulties with ADLs or IADLs, and its values are taken from RwRCAANY. In addition to the special missing codes employed by RwRCAANY, SwRCAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each for ADLs and IADLs in waves 1 and 2, and up to 8 caregivers each for ADLs and IADLs in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRCAANY in the Harmonized HRS includes help using the telephone, whereas RwRCAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

## Wave 1 Helper:

H22 kinship of helper  
 H23 roster number of helper  
 H24 days of help  
 H25 hours of help  
 H32 kinship of helper  
 H33 roster number of helper  
 H34 days of help  
 H35 hours of help

## Wave 2:

H14 someone help you to get dressed  
 H15E spouse helps  
 H15F additional person helps  
 H16E spouse helps  
 H16F additional person helps  
 H17E spouse helps  
 H17F additional person helps  
 H18E spouse helps  
 H18F additional person helps  
 H19E spouse helps  
 H19F additional person helps  
 H26D spouse helps  
 H26E additional person helps  
 H27D spouse helps  
 H27E additional person helps  
 H28D spouse helps  
 H28E additional person helps  
 H29D spouse helps  
 H29E additional person helps

## Wave 2 Helper:

H22 relationship  
 H23 registration number  
 H24 number of days (name) helped last month  
 H25 number of hours during those days  
 H32 relationship  
 H33 registration number  
 H34 number of days (name) helped last month  
 H35 how many hours during those days

## Wave 3:

H14\_12 Someone help you to get dressed  
 H15D\_12 Someone help you walk across room  
 H16D\_12 Someone help you to bathe or shower  
 H17D\_12 Does someone help you eat your food  
 H18D\_12 Does someone help you get into or out of bed  
 H19D\_12 Does someone help you use toilet, get on off  
 H22\_1\_12 Relationship with helper for ADLs  
 H22\_2\_12 Relationship with helper for ADLs  
 H22\_3\_12 Relationship with helper for ADLs  
 H22\_4\_12 Relationship with helper for ADLs  
 H22\_5\_12 Relationship with helper for ADLs  
 H22\_6\_12 Relationship with helper for ADLs  
 H22\_7\_12 Relationship with helper for ADLs  
 H22\_8\_12 Relationship with helper for ADLs  
 H23\_1\_12 Registration number of helper for ADLs  
 H23\_2\_12 Registration number of helper for ADLs  
 H23\_3\_12 Registration number of helper for ADLs  
 H23\_4\_12 Registration number of helper for ADLs  
 H23\_5\_12 Registration number of helper for ADLs  
 H23\_6\_12 Registration number of helper for ADLs  
 H23\_7\_12 Registration number of helper for ADLs  
 H23\_8\_12 Registration number of helper for ADLs  
 H24\_1\_12 Number of days (name) helped last month  
 H24\_2\_12 Number of days (name) helped last month

H24\_3\_12 Number of days (name) helped last month  
 H24\_4\_12 Number of days (name) helped last month  
 H24\_5\_12 Number of days (name) helped last month  
 H24\_6\_12 Number of days (name) helped last month  
 H24\_7\_12 Number of days (name) helped last month  
 H24\_8\_12 Number of days (name) helped last month  
 H25\_1\_12 Number of hours during those days (NAME) helped  
 H25\_2\_12 Number of hours during those days (NAME) helped  
 H25\_3\_12 Number of hours during those days (NAME) helped  
 H25\_4\_12 Number of hours during those days (NAME) helped  
 H25\_5\_12 Number of hours during those days (NAME) helped  
 H25\_6\_12 Number of hours during those days (NAME) helped  
 H25\_7\_12 Number of hours during those days (NAME) helped  
 H25\_8\_12 Number of hours during those days (NAME) helped  
 H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs  
 H32\_7\_12 Relationship with helper for IADLs  
 H32\_8\_12 Relationship with helper for IADLs  
 H33\_1\_12 Registration number of helper for IADLs  
 H33\_2\_12 Registration number of helper for ADLs  
 H33\_3\_12 Registration number of helper for IADLs  
 H33\_4\_12 Registration number of helper for IADLs  
 H33\_5\_12 Registration number of helper for IADLs  
 H33\_6\_12 Registration number of helper for IADLs  
 H33\_7\_12 Registration number of helper for IADLs  
 H33\_8\_12 Registration number of helper for IADLs  
 H34\_1\_12 Number of days (name) helped last month  
 H34\_2\_12 Number of days (name) helped last month  
 H34\_3\_12 Number of days (name) helped last month  
 H34\_4\_12 Number of days (name) helped last month  
 H34\_5\_12 Number of days (name) helped last month  
 H34\_6\_12 Number of days (name) helped last month  
 H34\_7\_12 Number of days (name) helped last month  
 H34\_8\_12 Number of days (name) helped last month  
 H35\_1\_12 Number of hours during those days (NAME) helped  
 H35\_2\_12 Number of hours during those days (NAME) helped  
 H35\_3\_12 Number of hours during those days (NAME) helped  
 H35\_4\_12 Number of hours during those days (NAME) helped  
 H35\_5\_12 Number of hours during those days (NAME) helped  
 H35\_6\_12 Number of hours during those days (NAME) helped  
 H35\_7\_12 Number of hours during those days (NAME) helped  
 H35\_8\_12 Number of hours during those days (NAME) helped

## Wave 4:

H14\_15 Does someone help respondent to get dressed  
 H15D\_15 Does someone help respondent walking across a room  
 H16D\_15 Does someone help respondent bathing or showering  
 H17D\_15 Does someone help respondent eating  
 H18D\_15 Does someone help respondent getting in or out of bed  
 H19D\_15 Does someone help respondent using the toilet  
 H22\_1\_15 Respondent's relationship with person helping with ADLs  
 H22\_2\_15 Respondent's relationship with person helping with ADLs  
 H22\_3\_15 Respondent's relationship with person helping with ADLs  
 H22\_4\_15 Respondent's relationship with person helping with ADLs  
 H22\_5\_15 Respondent's relationship with person helping with ADLs  
 H22\_6\_15 Respondent's relationship with person helping with ADLs

H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

### Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Spouse

Wave	Variable	Label	Type
1	R1RSCARE	r1rscare:w1 R receives informal care from spouse for ADLs/IA	Categ
2	R2RSCARE	r2rscare:w2 R receives informal care from spouse for ADLs/IA	Categ
3	R3RSCARE	r3rscare:w3 R receives informal care from spouse for ADLs/IA	Categ
4	R4RSCARE	r4rscare:w4 R receives informal care from spouse for ADLs/IA	Categ
1	S1RSCARE	s1rscare:w1 S receives informal care from spouse for ADLs/IA	Categ
2	S2RSCARE	s2rscare:w2 S receives informal care from spouse for ADLs/IA	Categ
3	S3RSCARE	s3rscare:w3 S receives informal care from spouse for ADLs/IA	Categ
4	S4RSCARE	s4rscare:w4 S receives informal care from spouse for ADLs/IA	Categ
2	R2RSCAREDPM	r2rscaredpm:w2 days/month spouse helps R with ADLs/IADLs	Cont
3	R3RSCAREDPM	r3rscaredpm:w3 days/month spouse helps R with ADLs/IADLs	Cont
4	R4RSCAREDPM	r4rscaredpm:w4 days/month spouse helps R with ADLs/IADLs	Cont
2	S2RSCAREDPM	s2rscaredpm:w2 days/month spouse helps S with ADLs/IADLs	Cont
3	S3RSCAREDPM	s3rscaredpm:w3 days/month spouse helps S with ADLs/IADLs	Cont
4	S4RSCAREDPM	s4rscaredpm:w4 days/month spouse helps S with ADLs/IADLs	Cont
2	R2RSCAREDPMM	r2rscaredpmm:w2 R # spouse missing days of help for ADLs/IAD	Cont
3	R3RSCAREDPMM	r3rscaredpmm:w3 R # spouse missing days of help for ADLs/IAD	Cont
4	R4RSCAREDPMM	r4rscaredpmm:w4 R # spouse missing days of help for ADLs/IAD	Cont
2	S2RSCAREDPMM	s2rscaredpmm:w2 S # spouse missing days of help for ADLs/IAD	Cont
3	S3RSCAREDPMM	s3rscaredpmm:w3 S # spouse missing days of help for ADLs/IAD	Cont
4	S4RSCAREDPMM	s4rscaredpmm:w4 S # spouse missing days of help for ADLs/IAD	Cont
2	R2RSCAREHR	r2rscarehr:w2 hours/day spouse helps R with ADLs/IADLs	Cont
3	R3RSCAREHR	r3rscarehr:w3 hours/day spouse helps R with ADLs/IADLs	Cont
4	R4RSCAREHR	r4rscarehr:w4 hours/day spouse helps R with ADLs/IADLs	Cont
2	S2RSCAREHR	s2rscarehr:w2 hours/day spouse helps S with ADLs/IADLs	Cont
3	S3RSCAREHR	s3rscarehr:w3 hours/day spouse helps S with ADLs/IADLs	Cont
4	S4RSCAREHR	s4rscarehr:w4 hours/day spouse helps S with ADLs/IADLs	Cont
2	R2RSCAREHRM	r2rscarehrm:w2 R # spouse missing hours of help for ADLs/IAD	Cont
3	R3RSCAREHRM	r3rscarehrm:w3 R # spouse missing hours of help for ADLs/IAD	Cont
4	R4RSCAREHRM	r4rscarehrm:w4 R # spouse missing hours of help for ADLs/IAD	Cont
2	S2RSCAREHRM	s2rscarehrm:w2 S # spouse missing hours of help for ADLs/IAD	Cont
3	S3RSCAREHRM	s3rscarehrm:w3 S # spouse missing hours of help for ADLs/IAD	Cont
4	S4RSCAREHRM	s4rscarehrm:w4 S # spouse missing hours of help for ADLs/IAD	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RSCARE	1774	0.55	0.50	0.00	1.00
R2RSCARE	1663	0.00	0.02	0.00	1.00
R3RSCARE	2318	0.33	0.47	0.00	1.00
R4RSCARE	2516	0.31	0.46	0.00	1.00
S1RSCARE	1148	0.83	0.37	0.00	1.00
S2RSCARE	1019	0.00	0.03	0.00	1.00
S3RSCARE	1251	0.60	0.49	0.00	1.00
S4RSCARE	1277	0.59	0.49	0.00	1.00
R2RSCAREDPM	1663	0.02	0.74	0.00	30.00



R3RSCAREDPM	2313	8.03	12.85	0.00	30.00
R4RSCAREDPM	2511	6.55	11.83	0.00	30.00
S2RSCAREDPM	1019	0.03	0.94	0.00	30.00
S3RSCAREDPM	1247	14.57	14.31	0.00	30.00
S4RSCAREDPM	1272	12.56	13.91	0.00	30.00
R2RSCAREDPMM	1663	0.00	0.00	0.00	0.00
R3RSCAREDPMM	2318	0.00	0.05	0.00	1.00
R4RSCAREDPMM	2516	0.00	0.04	0.00	1.00
S2RSCAREDPMM	1019	0.00	0.00	0.00	0.00
S3RSCAREDPMM	1251	0.00	0.06	0.00	1.00
S4RSCAREDPMM	1277	0.00	0.06	0.00	1.00
R2RSCAREHR	1663	0.00	0.12	0.00	5.00
R3RSCAREHR	2303	2.91	6.52	0.00	24.00
R4RSCAREHR	2508	1.52	3.73	0.00	24.00
S2RSCAREHR	1019	0.00	0.16	0.00	5.00
S3RSCAREHR	1237	5.31	8.08	0.00	24.00
S4RSCAREHR	1269	2.90	4.72	0.00	24.00
R2RSCAREHRM	1663	0.00	0.00	0.00	0.00
R3RSCAREHRM	2318	0.01	0.09	0.00	1.00
R4RSCAREHRM	2516	0.00	0.06	0.00	1.00
S2RSCAREHRM	1019	0.00	0.00	0.00	0.00
S3RSCAREHRM	1251	0.01	0.11	0.00	1.00
S4RSCAREHRM	1277	0.01	0.08	0.00	1.00

## Categorical Variable Codes

Value-----	R1RSCARE	R2RSCARE	R3RSCARE	R4RSCARE
.d:DK	1		1	6
.h:no help received	812	732	1771	1666
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	804	1662	1548	1742
1.Yes	970	1	770	774

Value-----	S1RSCARE	S2RSCARE	S3RSCARE	S4RSCARE
.d:DK			1	5
.h:no help received	501	489	1213	1072
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	191	1018	501	528
1.Yes	957	1	750	749

## How Constructed

The following variables indicate whether the respondent's spouse helps the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and 8 people in waves 3 and 4 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the

caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRSCARE, RwRSCAREDPM, RwRSCAREDPMM, RwRSCAREHR, and RwRSCAREHRM include help from the respondent's spouse.

RwRSCARE indicates whether the respondent's spouse helps the respondent with any ADL or IADL needs. RwRSCARE is coded as 0 if the respondent receives no assistance from their spouse; and is coded as 1 if the respondent does receive help from their spouse.

RwRSCAREDPM indicates the number of days per month the respondent's spouse helps the respondent with ADL or IADL needs. If the respondent reports receiving help every day from their spouse, then a value of 30 is assumed. RwRSCAREDPM is assigned a value of 0 if the respondent did not receive help from their spouse. RwRSCAREDPMM indicates whether no value of days was reported for their spouse helper and so was not accounted for in RwRSCAREDPM. RwRSCAREDPMM is assigned special missing value .m if the respondent was not helped by their spouse. RwRSCAREDPM and RwRSCAREDPMM are not available in wave 1.

RwRSCAREHR indicates the number of hours per day the respondent's spouse helps the respondent with any ADL or IADL needs. Respondents are asked, on days their spouse helps with a particular ADL or IADL need, how many hours per day their spouse helps. If the respondent reports less than an hour for their spouse, then a 1 is assumed. RwRSCAREHR is assigned a value of 0 if the respondent did not receive help from their spouse. RwRSCAREHRM indicates whether no value of hours was reported for their spouse helper and so was not accounted for in RwRSCAREHR. RwRSCAREHRM is assigned special missing value .m if the respondent was not helped by their spouse. RwRSCAREHR and RwRSCAREHRM are not available in wave 1.

SwRSCARE, SwRSCAREDPM, and SwRSCAREHR indicate whether and the frequency with which the respondent's current wave's spouse receives help from the respondent, and their values are taken from RwRSCARE, RwRSCAREDPM, and RwRSCAREHR. SwRSCAREDPMM and SwRSCAREHRM indicate whether or not a value was reported for the number of days and hours the respondent's current spouse was helped by the respondent and are taken from RwRSCAREDPMM and RwRSCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The respondent is asked the number of days per month and hours per day the respondent receives help from their spouse starting in wave 2.

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4 each for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. These variables in the Harmonized HRS include help provided by the respondent's spouse or former spouse, whereas these variables only include help provided by the respondent's spouse in the Harmonized MHAS.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RwRSCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRSCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps

H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs

H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal

H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

### Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Children or Grandchildren

Wave	Variable	Label	Type
1	R1RCCARE	r1rccare:w1 R receives informal care from kids/grandkids for	Categ
2	R2RCCARE	r2rccare:w2 R receives informal care from kids/grandkids for	Categ
3	R3RCCARE	r3rccare:w3 R receives informal care from kids/grandkids for	Categ
4	R4RCCARE	r4rccare:w4 R receives informal care from kids/grandkids for	Categ
1	S1RCCARE	s1rccare:w1 S receives informal care from kids/grandkids for	Categ
2	S2RCCARE	s2rccare:w2 S receives informal care from kids/grandkids for	Categ
3	S3RCCARE	s3rccare:w3 S receives informal care from kids/grandkids for	Categ
4	S4RCCARE	s4rccare:w4 S receives informal care from kids/grandkids for	Categ
1	R1RCCAREN	r1rccaren:w1 # kids/grandkids who help R with ADLs/IADLs	Cont
2	R2RCCAREN	r2rccaren:w2 # kids/grandkids who help R with ADLs/IADLs	Cont
3	R3RCCAREN	r3rccaren:w3 # kids/grandkids who help R with ADLs/IADLs	Cont
4	R4RCCAREN	r4rccaren:w4 # kids/grandkids who help R with ADLs/IADLs	Cont
1	S1RCCAREN	s1rccaren:w1 # kids/grandkids who help S with ADLs/IADLs	Cont
2	S2RCCAREN	s2rccaren:w2 # kids/grandkids who help S with ADLs/IADLs	Cont
3	S3RCCAREN	s3rccaren:w3 # kids/grandkids who help S with ADLs/IADLs	Cont
4	S4RCCAREN	s4rccaren:w4 # kids/grandkids who help S with ADLs/IADLs	Cont
1	R1RCCAREDPM	r1rccaredpm:w1 days/month kids/grandkids help R with ADLs/IA	Cont
2	R2RCCAREDPM	r2rccaredpm:w2 days/month kids/grandkids help R with ADLs/IA	Cont
3	R3RCCAREDPM	r3rccaredpm:w3 days/month kids/grandkids help R with ADLs/IA	Cont
4	R4RCCAREDPM	r4rccaredpm:w4 days/month kids/grandkids help R with ADLs/IA	Cont
1	S1RCCAREDPM	s1rccaredpm:w1 days/month kids/grandkids help S with ADLs/IA	Cont
2	S2RCCAREDPM	s2rccaredpm:w2 days/month kids/grandkids help S with ADLs/IA	Cont
3	S3RCCAREDPM	s3rccaredpm:w3 days/month kids/grandkids help S with ADLs/IA	Cont
4	S4RCCAREDPM	s4rccaredpm:w4 days/month kids/grandkids help S with ADLs/IA	Cont
1	R1RCCAREDPMM	r1rccaredpmm:w1 R # kids/grandkids missing days of help for	Cont
2	R2RCCAREDPMM	r2rccaredpmm:w2 R # kids/grandkids missing days of help for	Cont
3	R3RCCAREDPMM	r3rccaredpmm:w3 R # kids/grandkids missing days of help for	Cont
4	R4RCCAREDPMM	r4rccaredpmm:w4 R # kids/grandkids missing days of help for	Cont
1	S1RCCAREDPMM	s1rccaredpmm:w1 S # kids/grandkids missing days of help for	Cont
2	S2RCCAREDPMM	s2rccaredpmm:w2 S # kids/grandkids missing days of help for	Cont
3	S3RCCAREDPMM	s3rccaredpmm:w3 S # kids/grandkids missing days of help for	Cont
4	S4RCCAREDPMM	s4rccaredpmm:w4 S # kids/grandkids missing days of help for	Cont
1	R1RCCAREHR	r1rccarehr:w1 hours/day kids/grandkids help R with ADLs/IADL	Cont
2	R2RCCAREHR	r2rccarehr:w2 hours/day kids/grandkids help R with ADLs/IADL	Cont
3	R3RCCAREHR	r3rccarehr:w3 hours/day kids/grandkids help R with ADLs/IADL	Cont
4	R4RCCAREHR	r4rccarehr:w4 hours/day kids/grandkids help R with ADLs/IADL	Cont
1	S1RCCAREHR	s1rccarehr:w1 hours/day kids/grandkids help S with ADLs/IADL	Cont
2	S2RCCAREHR	s2rccarehr:w2 hours/day kids/grandkids help S with ADLs/IADL	Cont
3	S3RCCAREHR	s3rccarehr:w3 hours/day kids/grandkids help S with ADLs/IADL	Cont
4	S4RCCAREHR	s4rccarehr:w4 hours/day kids/grandkids help S with ADLs/IADL	Cont
1	R1RCCAREHRM	r1rccarehrm:w1 R # kids/grandkids missing hours of help for	Cont
2	R2RCCAREHRM	r2rccarehrm:w2 R # kids/grandkids missing hours of help for	Cont
3	R3RCCAREHRM	r3rccarehrm:w3 R # kids/grandkids missing hours of help for	Cont
4	R4RCCAREHRM	r4rccarehrm:w4 R # kids/grandkids missing hours of help for	Cont
1	S1RCCAREHRM	s1rccarehrm:w1 S # kids/grandkids missing hours of help for	Cont

2	S2RCCAREHRM	s2rcccarehrm:w2	S # kids/grandkids missing hours of help for	Cont
3	S3RCCAREHRM	s3rcccarehrm:w3	S # kids/grandkids missing hours of help for	Cont
4	S4RCCAREHRM	s4rcccarehrm:w4	S # kids/grandkids missing hours of help for	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RCCARE	1774	0.50	0.50	0.00	1.00
R2RCCARE	1663	0.02	0.15	0.00	1.00
R3RCCARE	2318	0.60	0.49	0.00	1.00
R4RCCARE	2516	0.64	0.48	0.00	1.00
S1RCCARE	1148	0.35	0.48	0.00	1.00
S2RCCARE	1019	0.00	0.00	0.00	0.00
S3RCCARE	1251	0.42	0.49	0.00	1.00
S4RCCARE	1277	0.45	0.50	0.00	1.00
R1RCCAREN	1774	0.76	1.06	0.00	13.00
R2RCCAREN	1663	0.04	0.32	0.00	7.00
R3RCCAREN	2318	0.81	0.86	0.00	8.00
R4RCCAREN	2516	0.87	0.89	0.00	8.00
S1RCCAREN	1148	0.56	0.98	0.00	9.00
S2RCCAREN	1019	0.00	0.00	0.00	0.00
S3RCCAREN	1251	0.57	0.84	0.00	6.00
S4RCCAREN	1277	0.61	0.87	0.00	8.00
R1RCCAREDPM	1774	17.74	28.04	0.00	363.00
R2RCCAREDPM	1663	0.96	7.76	0.00	150.00
R3RCCAREDPM	2304	16.42	21.04	0.00	180.00
R4RCCAREDPM	2512	16.10	20.12	0.00	210.00
S1RCCAREDPM	1148	12.53	25.13	0.00	270.00
S2RCCAREDPM	1019	0.00	0.00	0.00	0.00
S3RCCAREDPM	1243	10.36	18.33	0.00	180.00
S4RCCAREDPM	1275	10.35	16.86	0.00	120.00
R1RCCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RCCAREDPMM	1663	0.00	0.00	0.00	0.00
R3RCCAREDPMM	2318	0.01	0.10	0.00	2.00
R4RCCAREDPMM	2516	0.01	0.08	0.00	2.00
S1RCCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RCCAREDPMM	1019	0.00	0.00	0.00	0.00
S3RCCAREDPMM	1251	0.01	0.09	0.00	1.00
S4RCCAREDPMM	1277	0.00	0.06	0.00	1.00
R1RCCAREHR	1774	3.46	6.74	0.00	80.00
R2RCCAREHR	1663	0.20	2.15	0.00	56.00
R3RCCAREHR	2302	6.04	9.71	0.00	90.00
R4RCCAREHR	2508	4.32	7.48	0.00	168.00
S1RCCAREHR	1148	2.19	5.72	0.00	80.00
S2RCCAREHR	1019	0.00	0.00	0.00	0.00
S3RCCAREHR	1241	3.51	7.92	0.00	90.00
S4RCCAREHR	1275	2.55	4.90	0.00	55.00
R1RCCAREHRM	1774	0.00	0.00	0.00	0.00
R2RCCAREHRM	1663	0.00	0.00	0.00	0.00
R3RCCAREHRM	2318	0.01	0.13	0.00	3.00
R4RCCAREHRM	2516	0.01	0.11	0.00	4.00



S1RCCAREHRM	1148	0.00	0.00	0.00	0.00
S2RCCAREHRM	1019	0.00	0.00	0.00	0.00
S3RCCAREHRM	1251	0.01	0.13	0.00	3.00
S4RCCAREHRM	1277	0.00	0.06	0.00	1.00

## Categorical Variable Codes

Value-----	R1RCCARE	R2RCCARE	R3RCCARE	R4RCCARE
.d:DK	1		1	6
.h:no help received	812	732	1771	1666
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	890	1625	925	918
1.Yes	884	38	1393	1598

Value-----	S1RCCARE	S2RCCARE	S3RCCARE	S4RCCARE
.d:DK			1	5
.h:no help received	501	489	1213	1072
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	746	1019	731	702
1.Yes	402		520	575

## How Constructed

The following variables indicate whether the respondent's children or grandchildren help the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRCCARE, RwRCCAREN, RwRCCAREDPM, RwRCCAREDPMM, RwRCCAREHR, and RwRCCAREHRM include help from a child, child-in-law, or grandchild.

RwRCCARE indicates whether any of the respondent's children or grandchildren help the respondent with ADL or IADL needs. RwRCCAREN indicates the number of the respondent's children or grandchildren who help the respondent with ADL or IADL needs. RwRCCARE is coded as 0 if none of the respondent's children or grandchildren help the respondent with ADLs or IADLs; and is coded as 1 if at least one of the respondent's children or grandchildren help the respondent with ADLs or IADLs.

RwRCCAREDPM indicates the number of total days per month the respondent's children or grandchildren help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that child or grandchild, then a value of 30 is assumed. RwRCCAREDPM is the sum of days per month for all children or grandchildren helpers, and so values can be over 30 days. RwRCCAREDPM is calculated as long as there is one non-missing value. RwRCCAREDPM is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRCCAREDPMM indicates the number of children or grandchildren who helped the respondent for whom no value of days was reported and was not accounted for in RwRCCAREDPM. RwRCCAREDPMM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

RwRCCAREHR indicates the number of hours per day the respondent's children or grandchildren help the respondent with ADL or IADL needs. Respondents are asked, on days their children or grandchildren help, how many hours per day that is. If the respondent reports less than an hour for that child or grandchild, then a 1 is assumed. RwRCCAREHR is the sum of hours per day for all children or grandchildren helpers, and so values can be over 24 hours. RwRCCAREHR is calculated as long as there is one non-missing value. RwRCCAREHR is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRCCAREHRM indicates the number of children or grandchildren who helped the respondent for whom no value of hours was reported and was not accounted for in RwRCCAREHR. RwRCCAREHRM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

SwRCCARE, SwRCCAREN, SwRCCAREDPM, and SwRCCAREHR indicate whether the respondent's current wave's spouse receives help from children or grandchildren, the number, and the frequency with which, and whether any are paid, and their values are taken from RwRCCARE, RwRCCAREN, RwRCCAREDPM, and RwRCCAREHR. SwRCCAREDPMM and SwRCCAREHRM indicate the number of children who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRCCAREDPMM and RwRCCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4 each for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RwRCCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRCCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating

H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs

H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month

H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helpe
H35_2_15	Number of hours during those days that the person helpe
H35_3_15	Number of hours during those days that the person helpe
H35_4_15	Number of hours during those days that the person helpe
H35_5_15	Number of hours during those days that the person helpe
H35_6_15	Number of hours during those days that the person helpe
H35_7_15	Number of hours during those days that the person helpe
H35_8_15	Number of hours during those days that the person helpe

<b>Activites of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Relatives</b>
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Wave	Variable	Label	Type
1	R1RRCARE	r1rrrcare:w1 R receives informal care from relatives for ADLs	Categ
2	R2RRCARE	r2rrrcare:w2 R receives informal care from relatives for ADLs	Categ
3	R3RRCARE	r3rrrcare:w3 R receives informal care from relatives for ADLs	Categ
4	R4RRCARE	r4rrrcare:w4 R receives informal care from relatives for ADLs	Categ
1	S1RRCARE	s1rrrcare:w1 S receives informal care from relatives for ADLs	Categ
2	S2RRCARE	s2rrrcare:w2 S receives informal care from relatives for ADLs	Categ
3	S3RRCARE	s3rrrcare:w3 S receives informal care from relatives for ADLs	Categ
4	S4RRCARE	s4rrrcare:w4 S receives informal care from relatives for ADLs	Categ
1	R1RRCAREN	r1rrrcaren:w1 # relatives who help R with ADLs/IADLs	Cont
2	R2RRCAREN	r2rrrcaren:w2 # relatives who help R with ADLs/IADLs	Cont
3	R3RRCAREN	r3rrrcaren:w3 # relatives who help R with ADLs/IADLs	Cont
4	R4RRCAREN	r4rrrcaren:w4 # relatives who help R with ADLs/IADLs	Cont
1	S1RRCAREN	s1rrrcaren:w1 # relatives who help S with ADLs/IADLs	Cont
2	S2RRCAREN	s2rrrcaren:w2 # relatives who help S with ADLs/IADLs	Cont
3	S3RRCAREN	s3rrrcaren:w3 # relatives who help S with ADLs/IADLs	Cont
4	S4RRCAREN	s4rrrcaren:w4 # relatives who help S with ADLs/IADLs	Cont
1	R1RRCAREDPM	r1rrrcaredpm:w1 days/month relatives help R with ADLs/IADLs	Cont
2	R2RRCAREDPM	r2rrrcaredpm:w2 days/month relatives help R with ADLs/IADLs	Cont
3	R3RRCAREDPM	r3rrrcaredpm:w3 days/month relatives help R with ADLs/IADLs	Cont
4	R4RRCAREDPM	r4rrrcaredpm:w4 days/month relatives help R with ADLs/IADLs	Cont
1	S1RRCAREDPM	s1rrrcaredpm:w1 days/month relatives help S with ADLs/IADLs	Cont
2	S2RRCAREDPM	s2rrrcaredpm:w2 days/month relatives help S with ADLs/IADLs	Cont
3	S3RRCAREDPM	s3rrrcaredpm:w3 days/month relatives help S with ADLs/IADLs	Cont
4	S4RRCAREDPM	s4rrrcaredpm:w4 days/month relatives help S with ADLs/IADLs	Cont
1	R1RRCAREDPMM	r1rrrcaredpmm:w1 R # relatives missing days of help for ADLs/	Cont
2	R2RRCAREDPMM	r2rrrcaredpmm:w2 R # relatives missing days of help for ADLs/	Cont
3	R3RRCAREDPMM	r3rrrcaredpmm:w3 R # relatives missing days of help for ADLs/	Cont
4	R4RRCAREDPMM	r4rrrcaredpmm:w4 R # relatives missing days of help for ADLs/	Cont
1	S1RRCAREDPMM	s1rrrcaredpmm:w1 S # relatives missing days of help for ADLs/	Cont
2	S2RRCAREDPMM	s2rrrcaredpmm:w2 S # relatives missing days of help for ADLs/	Cont
3	S3RRCAREDPMM	s3rrrcaredpmm:w3 S # relatives missing days of help for ADLs/	Cont
4	S4RRCAREDPMM	s4rrrcaredpmm:w4 S # relatives missing days of help for ADLs/	Cont
1	R1RRCAREHR	r1rrrcarehr:w1 hours/day relatives help R with ADLs/IADLs	Cont
2	R2RRCAREHR	r2rrrcarehr:w2 hours/day relatives help R with ADLs/IADLs	Cont
3	R3RRCAREHR	r3rrrcarehr:w3 hours/day relatives help R with ADLs/IADLs	Cont
4	R4RRCAREHR	r4rrrcarehr:w4 hours/day relatives help R with ADLs/IADLs	Cont
1	S1RRCAREHR	s1rrrcarehr:w1 hours/day relatives help S with ADLs/IADLs	Cont
2	S2RRCAREHR	s2rrrcarehr:w2 hours/day relatives help S with ADLs/IADLs	Cont
3	S3RRCAREHR	s3rrrcarehr:w3 hours/day relatives help S with ADLs/IADLs	Cont
4	S4RRCAREHR	s4rrrcarehr:w4 hours/day relatives help S with ADLs/IADLs	Cont
1	R1RRCAREHRM	r1rrrcarehrm:w1 R # relatives missing hours of help for ADLs/	Cont
2	R2RRCAREHRM	r2rrrcarehrm:w2 R # relatives missing hours of help for ADLs/	Cont
3	R3RRCAREHRM	r3rrrcarehrm:w3 R # relatives missing hours of help for ADLs/	Cont
4	R4RRCAREHRM	r4rrrcarehrm:w4 R # relatives missing hours of help for ADLs/	Cont
1	S1RRCAREHRM	s1rrrcarehrm:w1 S # relatives missing hours of help for ADLs/	Cont
2	S2RRCAREHRM	s2rrrcarehrm:w2 S # relatives missing hours of help for ADLs/	Cont

3 S3RRCAREHRM s3rrccarehrm:w3 S # relatives missing hours of help for ADLs/ Cont  
 4 S4RRCAREHRM s4rrccarehrm:w4 S # relatives missing hours of help for ADLs/ Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RRCARE	1774	0.04	0.20	0.00	1.00
R2RRCARE	1663	0.00	0.02	0.00	1.00
R3RRCARE	2318	0.05	0.21	0.00	1.00
R4RRCARE	2516	0.04	0.21	0.00	1.00
S1RRCARE	1148	0.01	0.12	0.00	1.00
S2RRCARE	1019	0.00	0.00	0.00	0.00
S3RRCARE	1251	0.02	0.12	0.00	1.00
S4RRCARE	1277	0.01	0.10	0.00	1.00
R1RRCAREN	1774	0.05	0.27	0.00	3.00
R2RRCAREN	1663	0.00	0.02	0.00	1.00
R3RRCAREN	2318	0.06	0.31	0.00	4.00
R4RRCAREN	2516	0.06	0.32	0.00	8.00
S1RRCAREN	1148	0.02	0.16	0.00	3.00
S2RRCAREN	1019	0.00	0.00	0.00	0.00
S3RRCAREN	1251	0.02	0.13	0.00	2.00
S4RRCAREN	1277	0.01	0.11	0.00	2.00
R1RRCAREDPM	1774	1.10	6.44	0.00	90.00
R2RRCAREDPM	1663	0.02	0.74	0.00	30.00
R3RRCAREDPM	2317	1.27	6.97	0.00	90.00
R4RRCAREDPM	2514	1.25	8.32	0.00	240.00
S1RRCAREDPM	1148	0.39	3.92	0.00	75.00
S2RRCAREDPM	1019	0.00	0.00	0.00	0.00
S3RRCAREDPM	1251	0.36	3.37	0.00	60.00
S4RRCAREDPM	1277	0.21	2.61	0.00	60.00
R1RRCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RRCAREDPMM	1663	0.00	0.00	0.00	0.00
R3RRCAREDPMM	2318	0.00	0.04	0.00	2.00
R4RRCAREDPMM	2516	0.00	0.03	0.00	1.00
S1RRCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RRCAREDPMM	1019	0.00	0.00	0.00	0.00
S3RRCAREDPMM	1251	0.00	0.00	0.00	0.00
S4RRCAREDPMM	1277	0.00	0.00	0.00	0.00
R1RRCAREHR	1774	0.30	2.20	0.00	49.00
R2RRCAREHR	1663	0.00	0.02	0.00	1.00
R3RRCAREHR	2315	0.47	3.36	0.00	72.00
R4RRCAREHR	2515	0.27	1.82	0.00	32.00
S1RRCAREHR	1148	0.18	2.07	0.00	49.00
S2RRCAREHR	1019	0.00	0.00	0.00	0.00
S3RRCAREHR	1251	0.13	1.49	0.00	24.00
S4RRCAREHR	1277	0.05	0.75	0.00	21.00
R1RRCAREHRM	1774	0.00	0.00	0.00	0.00
R2RRCAREHRM	1663	0.00	0.00	0.00	0.00
R3RRCAREHRM	2318	0.00	0.04	0.00	1.00
R4RRCAREHRM	2516	0.00	0.02	0.00	1.00
S1RRCAREHRM	1148	0.00	0.00	0.00	0.00



S2RRCAREHRM	1019	0.00	0.00	0.00	0.00
S3RRCAREHRM	1251	0.00	0.00	0.00	0.00
S4RRCAREHRM	1277	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RRCARE	R2RRCARE	R3RRCARE	R4RRCARE
.d:DK	1		1	6
.h:no help received	812	732	1771	1666
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	1700	1662	2206	2403
1.Yes	74	1	112	113

Value-----	S1RRCARE	S2RRCARE	S3RRCARE	S4RRCARE
.d:DK			1	5
.h:no help received	501	489	1213	1072
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	1131	1019	1232	1265
1.Yes	17		19	12

## How Constructed

The following variables indicate whether any of the respondent's relatives help the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRRCARE, RwRRCAREN, RwRRCAREDPM, RwRRCAREDPMM, RwRRCAREHR, and RwRRCAREHRM include help from the respondent's parent or other relative.

RwRRCARE indicates whether any of the respondent's relatives help the respondent with ADL or IADL needs. RwRRCAREN indicates the number of the respondent's relatives who help the respondent with ADL or IADL needs. RwRRCARE is coded as 0 if none of the respondent's relatives help the respondent with ADLs or IADLs; and is coded as 1 if at least one of the respondent's relatives help the respondent with ADLs or IADLs.

RwRRCAREDPM indicates the number of total days per month the respondent's relatives help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that relative, then a

value of 30 is assumed. RWRRCAREDPM is the sum of days per month for all relative helpers, and so values can be over 30 days. RWRRCAREDPM is calculated as long as there is one non-missing value. RWRRCAREDPM is assigned a value of 0 if the respondent did not receive help from any relatives. RWRRCAREDPMM indicates the number of relatives who helped the respondent for whom no value of days was reported and was not accounted for in RWRRCAREDPM. RWRRCAREDPMM is assigned special missing value .m if the respondent was not helped by any relatives.

RWRRCAREHR indicates the number of hours per day the respondent's relatives help the respondent with ADL or IADL needs. Respondents are asked, on days their relatives help, how many hours per day that is. If the respondent reports less than an hour for that relative, then a 1 is assumed. RWRRCAREHR is the sum of hours per day for all relative helpers, and so values can be over 24 hours. RWRRCAREHR is calculated as long as there is one non-missing value. RWRRCAREHR is assigned a value of 0 if the respondent did not receive help from any relatives. RWRRCAREHRM indicates the number of relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RWRRCAREHR. RWRRCAREHRM is assigned special missing value .m if the respondent was not helped by any relatives.

SWRRCARE, SWRRCAREN, SWRRCAREDPM, and SWRRCAREHR indicate whether the respondent's current wave's spouse receives help from relatives, the number, and the frequency with which, and their values are taken from RWRRCARE, RWRRCAREN, RWRRCAREDPM, and RWRRCAREHR. SWRRCAREDPMM and SWRRCAREHRM indicate the number of relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RWRRCAREDPMM and RWRRCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4 each for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RWRRCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RWRRCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet

H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs

H23\_2\_12 Registration number of helper for ADLs  
 H23\_3\_12 Registration number of helper for ADLs  
 H23\_4\_12 Registration number of helper for ADLs  
 H23\_5\_12 Registration number of helper for ADLs  
 H23\_6\_12 Registration number of helper for ADLs  
 H23\_7\_12 Registration number of helper for ADLs  
 H23\_8\_12 Registration number of helper for ADLs  
 H24\_1\_12 Number of days (name) helped last month  
 H24\_2\_12 Number of days (name) helped last month  
 H24\_3\_12 Number of days (name) helped last month  
 H24\_4\_12 Number of days (name) helped last month  
 H24\_5\_12 Number of days (name) helped last month  
 H24\_6\_12 Number of days (name) helped last month  
 H24\_7\_12 Number of days (name) helped last month  
 H24\_8\_12 Number of days (name) helped last month  
 H25\_1\_12 Number of hours during those days (NAME) helped  
 H25\_2\_12 Number of hours during those days (NAME) helped  
 H25\_3\_12 Number of hours during those days (NAME) helped  
 H25\_4\_12 Number of hours during those days (NAME) helped  
 H25\_5\_12 Number of hours during those days (NAME) helped  
 H25\_6\_12 Number of hours during those days (NAME) helped  
 H25\_7\_12 Number of hours during those days (NAME) helped  
 H25\_8\_12 Number of hours during those days (NAME) helped  
 H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs  
 H32\_7\_12 Relationship with helper for IADLs  
 H32\_8\_12 Relationship with helper for IADLs  
 H33\_1\_12 Registration number of helper for IADLs  
 H33\_2\_12 Registration number of helper for ADLs  
 H33\_3\_12 Registration number of helper for IADLs  
 H33\_4\_12 Registration number of helper for IADLs  
 H33\_5\_12 Registration number of helper for IADLs  
 H33\_6\_12 Registration number of helper for IADLs  
 H33\_7\_12 Registration number of helper for IADLs  
 H33\_8\_12 Registration number of helper for IADLs  
 H34\_1\_12 Number of days (name) helped last month  
 H34\_2\_12 Number of days (name) helped last month  
 H34\_3\_12 Number of days (name) helped last month  
 H34\_4\_12 Number of days (name) helped last month  
 H34\_5\_12 Number of days (name) helped last month  
 H34\_6\_12 Number of days (name) helped last month  
 H34\_7\_12 Number of days (name) helped last month  
 H34\_8\_12 Number of days (name) helped last month  
 H35\_1\_12 Number of hours during those days (NAME) helped  
 H35\_2\_12 Number of hours during those days (NAME) helped  
 H35\_3\_12 Number of hours during those days (NAME) helped  
 H35\_4\_12 Number of hours during those days (NAME) helped  
 H35\_5\_12 Number of hours during those days (NAME) helped  
 H35\_6\_12 Number of hours during those days (NAME) helped  
 H35\_7\_12 Number of hours during those days (NAME) helped  
 H35\_8\_12 Number of hours during those days (NAME) helped

## Wave 4:

H14\_15 Does someone help respondent to get dressed  
 H15D\_15 Does someone help respondent walking across a room  
 H16D\_15 Does someone help respondent bathing or showering

H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helped
H25_2_15	Number of hours during those days that the person helped
H25_3_15	Number of hours during those days that the person helped
H25_4_15	Number of hours during those days that the person helped
H25_5_15	Number of hours during those days that the person helped
H25_6_15	Number of hours during those days that the person helped
H25_7_15	Number of hours during those days that the person helped
H25_8_15	Number of hours during those days that the person helped
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADLs
H32_2_15	Respondent's relationship with person helping with IADLs
H32_3_15	Respondent's relationship with person helping with IADLs
H32_4_15	Respondent's relationship with person helping with IADLs
H32_5_15	Respondent's relationship with person helping with IADLs
H32_6_15	Respondent's relationship with person helping with IADLs
H32_7_15	Respondent's relationship with person helping with IADLs
H32_8_15	Respondent's relationship with person helping with IADLs
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month

H35_1_15	Number of hours during those days that the person helpe
H35_2_15	Number of hours during those days that the person helpe
H35_3_15	Number of hours during those days that the person helpe
H35_4_15	Number of hours during those days that the person helpe
H35_5_15	Number of hours during those days that the person helpe
H35_6_15	Number of hours during those days that the person helpe
H35_7_15	Number of hours during those days that the person helpe
H35_8_15	Number of hours during those days that the person helpe

### Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Other Individuals

Wave	Variable	Label	Type
1	R1RFCARE	r1rfcare:w1 R receives informal care from non-relatives for	Categ
2	R2RFCARE	r2rfcare:w2 R receives informal care from non-relatives for	Categ
3	R3RFCARE	r3rfcare:w3 R receives informal care from non-relatives for	Categ
4	R4RFCARE	r4rfcare:w4 R receives informal care from non-relatives for	Categ
1	S1RFCARE	s1rfcare:w1 S receives informal care from non-relatives for	Categ
2	S2RFCARE	s2rfcare:w2 S receives informal care from non-relatives for	Categ
3	S3RFCARE	s3rfcare:w3 S receives informal care from non-relatives for	Categ
4	S4RFCARE	s4rfcare:w4 S receives informal care from non-relatives for	Categ
1	R1RFCAREN	r1rfcare:w1 # non-relatives who help R with ADLs/IADLs	Cont
2	R2RFCAREN	r2rfcare:w2 # non-relatives who help R with ADLs/IADLs	Cont
3	R3RFCAREN	r3rfcare:w3 # non-relatives who help R with ADLs/IADLs	Cont
4	R4RFCAREN	r4rfcare:w4 # non-relatives who help R with ADLs/IADLs	Cont
1	S1RFCAREN	s1rfcare:w1 # non-relatives who help S with ADLs/IADLs	Cont
2	S2RFCAREN	s2rfcare:w2 # non-relatives who help S with ADLs/IADLs	Cont
3	S3RFCAREN	s3rfcare:w3 # non-relatives who help S with ADLs/IADLs	Cont
4	S4RFCAREN	s4rfcare:w4 # non-relatives who help S with ADLs/IADLs	Cont
1	R1RFCAREDPM	r1rfcaredpm:w1 days/month non-relatives help R with ADLs/IAD	Cont
2	R2RFCAREDPM	r2rfcaredpm:w2 days/month non-relatives help R with ADLs/IAD	Cont
3	R3RFCAREDPM	r3rfcaredpm:w3 days/month non-relatives help R with ADLs/IAD	Cont
4	R4RFCAREDPM	r4rfcaredpm:w4 days/month non-relatives help R with ADLs/IAD	Cont
1	S1RFCAREDPM	s1rfcaredpm:w1 days/month non-relatives help S with ADLs/IAD	Cont
2	S2RFCAREDPM	s2rfcaredpm:w2 days/month non-relatives help S with ADLs/IAD	Cont
3	S3RFCAREDPM	s3rfcaredpm:w3 days/month non-relatives help S with ADLs/IAD	Cont
4	S4RFCAREDPM	s4rfcaredpm:w4 days/month non-relatives help S with ADLs/IAD	Cont
1	R1RFCAREDPMM	r1rfcaredpmm:w1 R # non-relatives missing days of help for A	Cont
2	R2RFCAREDPMM	r2rfcaredpmm:w2 R # non-relatives missing days of help for A	Cont
3	R3RFCAREDPMM	r3rfcaredpmm:w3 R # non-relatives missing days of help for A	Cont
4	R4RFCAREDPMM	r4rfcaredpmm:w4 R # non-relatives missing days of help for A	Cont
1	S1RFCAREDPMM	s1rfcaredpmm:w1 S # non-relatives missing days of help for A	Cont
2	S2RFCAREDPMM	s2rfcaredpmm:w2 S # non-relatives missing days of help for A	Cont
3	S3RFCAREDPMM	s3rfcaredpmm:w3 S # non-relatives missing days of help for A	Cont
4	S4RFCAREDPMM	s4rfcaredpmm:w4 S # non-relatives missing days of help for A	Cont
1	R1RFCAREHR	r1rfcarehr:w1 hours/day non-relatives help R with ADLs/IADLs	Cont
2	R2RFCAREHR	r2rfcarehr:w2 hours/day non-relatives help R with ADLs/IADLs	Cont
3	R3RFCAREHR	r3rfcarehr:w3 hours/day non-relatives help R with ADLs/IADLs	Cont
4	R4RFCAREHR	r4rfcarehr:w4 hours/day non-relatives help R with ADLs/IADLs	Cont
1	S1RFCAREHR	s1rfcarehr:w1 hours/day non-relatives help S with ADLs/IADLs	Cont
2	S2RFCAREHR	s2rfcarehr:w2 hours/day non-relatives help S with ADLs/IADLs	Cont
3	S3RFCAREHR	s3rfcarehr:w3 hours/day non-relatives help S with ADLs/IADLs	Cont
4	S4RFCAREHR	s4rfcarehr:w4 hours/day non-relatives help S with ADLs/IADLs	Cont
1	R1RFCAREHRM	r1rfcarehrm:w1 R # non-relatives missing hours of help for A	Cont
2	R2RFCAREHRM	r2rfcarehrm:w2 R # non-relatives missing hours of help for A	Cont
3	R3RFCAREHRM	r3rfcarehrm:w3 R # non-relatives missing hours of help for A	Cont
4	R4RFCAREHRM	r4rfcarehrm:w4 R # non-relatives missing hours of help for A	Cont
1	S1RFCAREHRM	s1rfcarehrm:w1 S # non-relatives missing hours of help for A	Cont

2	S2RFCAREHRM	s2rfcarehrm:w2	S # non-relatives missing hours of help for A	Cont
3	S3RFCAREHRM	s3rfcarehrm:w3	S # non-relatives missing hours of help for A	Cont
4	S4RFCAREHRM	s4rfcarehrm:w4	S # non-relatives missing hours of help for A	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RFCARE	1774	0.03	0.17	0.00	1.00
R2RFCARE	1663	0.00	0.03	0.00	1.00
R3RFCARE	2318	0.04	0.19	0.00	1.00
R4RFCARE	2516	0.03	0.17	0.00	1.00
S1RFCARE	1148	0.01	0.10	0.00	1.00
S2RFCARE	1019	0.00	0.00	0.00	0.00
S3RFCARE	1251	0.01	0.12	0.00	1.00
S4RFCARE	1277	0.01	0.10	0.00	1.00
R1RFCAREN	1774	0.04	0.26	0.00	6.00
R2RFCAREN	1663	0.00	0.03	0.00	1.00
R3RFCAREN	2318	0.04	0.21	0.00	4.00
R4RFCAREN	2516	0.03	0.18	0.00	3.00
S1RFCAREN	1148	0.01	0.11	0.00	2.00
S2RFCAREN	1019	0.00	0.00	0.00	0.00
S3RFCAREN	1251	0.01	0.12	0.00	1.00
S4RFCAREN	1277	0.01	0.10	0.00	1.00
R1RFCAREDPM	1774	0.76	5.61	0.00	120.00
R2RFCAREDPM	1663	0.04	1.04	0.00	30.00
R3RFCAREDPM	2317	0.74	4.49	0.00	42.00
R4RFCAREDPM	2515	0.49	3.59	0.00	46.00
S1RFCAREDPM	1148	0.15	2.09	0.00	46.00
S2RFCAREDPM	1019	0.00	0.00	0.00	0.00
S3RFCAREDPM	1251	0.22	2.32	0.00	30.00
S4RFCAREDPM	1277	0.17	2.10	0.00	30.00
R1RFCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RFCAREDPMM	1663	0.00	0.00	0.00	0.00
R3RFCAREDPMM	2318	0.00	0.02	0.00	1.00
R4RFCAREDPMM	2516	0.00	0.02	0.00	1.00
S1RFCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RFCAREDPMM	1019	0.00	0.00	0.00	0.00
S3RFCAREDPMM	1251	0.00	0.00	0.00	0.00
S4RFCAREDPMM	1277	0.00	0.00	0.00	0.00
R1RFCAREHR	1774	0.12	1.14	0.00	24.00
R2RFCAREHR	1663	0.01	0.34	0.00	14.00
R3RFCAREHR	2317	0.23	1.84	0.00	24.00
R4RFCAREHR	2515	0.15	1.26	0.00	24.00
S1RFCAREHR	1148	0.02	0.36	0.00	10.00
S2RFCAREHR	1019	0.00	0.00	0.00	0.00
S3RFCAREHR	1250	0.13	1.57	0.00	24.00
S4RFCAREHR	1277	0.05	0.60	0.00	12.00
R1RFCAREHRM	1774	0.00	0.00	0.00	0.00
R2RFCAREHRM	1663	0.00	0.00	0.00	0.00
R3RFCAREHRM	2318	0.00	0.02	0.00	1.00
R4RFCAREHRM	2516	0.00	0.02	0.00	1.00



S1RFCAREHRM	1148	0.00	0.00	0.00	0.00
S2RFCAREHRM	1019	0.00	0.00	0.00	0.00
S3RFCAREHRM	1251	0.00	0.03	0.00	1.00
S4RFCAREHRM	1277	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RFCARE	R2RFCARE	R3RFCARE	R4RFCARE
.d:DK	1		1	6
.h:no help received	812	732	1771	1666
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	1723	1661	2231	2443
1.Yes	51	2	87	73

Value-----	S1RFCARE	S2RFCARE	S3RFCARE	S4RFCARE
.d:DK			1	5
.h:no help received	501	489	1213	1072
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	1137	1019	1233	1264
1.Yes	11		18	13

## How Constructed

The following variables indicate whether any non-relative helps the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRFCARE, RwRFCAREN, RwRFCAREDPM, RwRFCAREDPMM, RwRFCAREHR, and RwRFCAREHRM include help from another person (not their spouse, child, child-in-law, grandchild, parent, other relative, or paid person).

RwRFCARE indicates whether any of the respondent's non-relatives help the respondent with ADL or IADL needs. RwRFCAREN indicates the number of the respondent's non-relatives who help the respondent with ADL or IADL needs. RwRRCARE is coded as 0 if none of the respondent's non-relatives help the respondent with ADLs or IADLs; and is coded as 1 if at least one of the respondent's non-relatives help the respondent with ADLs or IADLs.

RwRFCAREDPM indicates the number of total days per month the respondent's non-relatives help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that non-relative, then a value of 30 is assumed. RwRFCAREDPM is the sum of days per month for all non-relative helpers, and so values can be over 30 days. RwRFCAREDPM is calculated as long as there is one non-missing value. RwRFCAREDPM is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRFCAREDPMM indicates the number of non-relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRFCAREDPM. RwRFCAREDPMM is assigned special missing value .m if the respondent was not helped by any non-relatives.

RwRFCAREHR indicates the number of hours per day the respondent's non-relatives help the respondent with ADL or IADL needs. Respondents are asked, on days their non-relatives help, how many hours per day that is. If the respondent reports less than an hour for that non-relative, then a 1 is assumed. RwRFCAREHR is the sum of hours per day for all non-relative helpers, and so values can be over 24 hours. RwRFCAREHR is calculated as long as there is one non-missing value. RwRFCAREHR is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRFCAREHRM indicates the number of non-relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRFCAREHR. RwRFCAREHRM is assigned special missing value .m if the respondent was not helped by any non-relatives.

SwRFCARE, SwRFCAREN, SwRFCAREDPM, and SwRFCAREHR indicate whether the respondent's current wave's spouse receives help from non-relatives, the number, and the frequency with which, and their values are taken from RwRFCARE, RwRFCAREN, RwRFCAREDPM, and RwRFCAREHR. SwRFCAREDPMM and SwRFCAREHRM indicate the number of non-relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRFCAREDPMM and RwRFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4 each for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RwRFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating

H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs

H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADLs
H32_2_15	Respondent's relationship with person helping with IADLs
H32_3_15	Respondent's relationship with person helping with IADLs
H32_4_15	Respondent's relationship with person helping with IADLs
H32_5_15	Respondent's relationship with person helping with IADLs
H32_6_15	Respondent's relationship with person helping with IADLs
H32_7_15	Respondent's relationship with person helping with IADLs
H32_8_15	Respondent's relationship with person helping with IADLs
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month

H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

### Activites of Daily Living and Instrumental Activities of Daily Living: Whether Receives Any Formal Care

Wave	Variable	Label	Type
1	R1RFAANY	r1rfaany:w1 R receives any formal care for ADLs/IADLs	Categ
2	R2RFAANY	r2rfaany:w2 R receives any formal care for ADLs/IADLs	Categ
3	R3RFAANY	r3rfaany:w3 R receives any formal care for ADLs/IADLs	Categ
4	R4RFAANY	r4rfaany:w4 R receives any formal care for ADLs/IADLs	Categ
1	S1RFAANY	s1rfaany:w1 S receives any formal care for ADLs/IADLs	Categ
2	S2RFAANY	s2rfaany:w2 S receives any formal care for ADLs/IADLs	Categ
3	S3RFAANY	s3rfaany:w3 S receives any formal care for ADLs/IADLs	Categ
4	S4RFAANY	s4rfaany:w4 S receives any formal care for ADLs/IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RFAANY	2586	0.02	0.15	0.00	1.00
R2RFAANY	2395	0.00	0.04	0.00	1.00
R3RFAANY	4089	0.02	0.13	0.00	1.00
R4RFAANY	4182	0.02	0.14	0.00	1.00
S1RFAANY	1649	0.01	0.09	0.00	1.00
S2RFAANY	1508	0.00	0.00	0.00	0.00
S3RFAANY	2464	0.01	0.09	0.00	1.00
S4RFAANY	2349	0.01	0.08	0.00	1.00

### Categorical Variable Codes

Value-----	R1RFAANY	R2RFAANY	R3RFAANY	R4RFAANY
.d:DK	1		1	6
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	2530	2392	4021	4099
1.Yes	56	3	68	83

Value-----	S1RFAANY	S2RFAANY	S3RFAANY	S4RFAANY
.d:DK			1	5
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	1635	1508	2442	2334
1.Yes	14		22	15

### How Constructed

RwRFAANY indicates whether the respondent receives any formal care for difficulties with activities of daily living (ADL) and/or instrumental activities of daily living (IADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs, and up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with IADLs. The following relationship is considered to provide formal care: paid person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees

with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRFAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL or IADL but receives no help with the activity from a formal caregiver, or does not receive any help at all. RwRFAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL or IADL and a formal caregiver helps with at least one of the activities. RwRFAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs or IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRFAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRFAANY indicates whether the respondent's current wave's spouse receives any formal care for difficulties with ADLs or IADLs, and its values are taken from RwRFAANY. In addition to the special missing codes employed by RwRFAANY, SwRFAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each for ADLs and IADLs in waves 1 and 2, and up to 8 caregivers each for ADLs and IADLs in waves 3 and 4.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. Please note that the Harmonized HRS includes categories for paid formal helpers and unpaid formal helpers, while the Harmonized MHAS only includes categories for paid formal helpers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRFAANY in the Harmonized HRS includes help using the telephone, whereas RwRFAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money



## Wave 1 Helper:

H22 kinship of helper  
 H23 roster number of helper  
 H32 kinship of helper  
 H33 roster number of helper

## Wave 2:

H14 someone help you to get dressed  
 H15E spouse helps  
 H15F additional person helps  
 H16E spouse helps  
 H16F additional person helps  
 H17E spouse helps  
 H17F additional person helps  
 H18E spouse helps  
 H18F additional person helps  
 H19E spouse helps  
 H19F additional person helps  
 H26D spouse helps  
 H26E additional person helps  
 H27D spouse helps  
 H27E additional person helps  
 H28D spouse helps  
 H28E additional person helps  
 H29D spouse helps  
 H29E additional person helps

## Wave 2 Helper:

H22 relationship  
 H23 registration number  
 H32 relationship  
 H33 registration number

## Wave 3:

H14\_12 Someone help you to get dressed  
 H15D\_12 Someone help you walk across room  
 H16D\_12 Someone help you to bathe or shower  
 H17D\_12 Does someone help you eat your food  
 H18D\_12 Does someone help you get into or out of bed  
 H19D\_12 Does someone help you use toilet, get on off  
 H22\_1\_12 Relationship with helper for ADLs  
 H22\_2\_12 Relationship with helper for ADLs  
 H22\_3\_12 Relationship with helper for ADLs  
 H22\_4\_12 Relationship with helper for ADLs  
 H22\_5\_12 Relationship with helper for ADLs  
 H22\_6\_12 Relationship with helper for ADLs  
 H22\_7\_12 Relationship with helper for ADLs  
 H22\_8\_12 Relationship with helper for ADLs  
 H23\_1\_12 Registration number of helper for ADLs  
 H23\_2\_12 Registration number of helper for ADLs  
 H23\_3\_12 Registration number of helper for ADLs  
 H23\_4\_12 Registration number of helper for ADLs  
 H23\_5\_12 Registration number of helper for ADLs  
 H23\_6\_12 Registration number of helper for ADLs  
 H23\_7\_12 Registration number of helper for ADLs  
 H23\_8\_12 Registration number of helper for ADLs  
 H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs

H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs

### Activities of Daily Living and Instrumental Activities of Daily Living: Receives Formal Care from Paid Professional

Wave	Variable	Label	Type
1	R1RPFPCARE	r1rpfpcare:w1 R receives formal care from paid professional f	Categ
2	R2RPFPCARE	r2rpfpcare:w2 R receives formal care from paid professional f	Categ
3	R3RPFPCARE	r3rpfpcare:w3 R receives formal care from paid professional f	Categ
4	R4RPFPCARE	r4rpfpcare:w4 R receives formal care from paid professional f	Categ
1	S1RPFPCARE	s1rpfpcare:w1 S receives formal care from paid professional f	Categ
2	S2RPFPCARE	s2rpfpcare:w2 S receives formal care from paid professional f	Categ
3	S3RPFPCARE	s3rpfpcare:w3 S receives formal care from paid professional f	Categ
4	S4RPFPCARE	s4rpfpcare:w4 S receives formal care from paid professional f	Categ
1	R1RPFPCAREN	r1rpfpcaren:w1 # paid professionals who help R with ADLs/IADL	Cont
2	R2RPFPCAREN	r2rpfpcaren:w2 # paid professionals who help R with ADLs/IADL	Cont
3	R3RPFPCAREN	r3rpfpcaren:w3 # paid professionals who help R with ADLs/IADL	Cont
4	R4RPFPCAREN	r4rpfpcaren:w4 # paid professionals who help R with ADLs/IADL	Cont
1	S1RPFPCAREN	s1rpfpcaren:w1 # paid professionals who help S with ADLs/IADL	Cont
2	S2RPFPCAREN	s2rpfpcaren:w2 # paid professionals who help S with ADLs/IADL	Cont
3	S3RPFPCAREN	s3rpfpcaren:w3 # paid professionals who help S with ADLs/IADL	Cont
4	S4RPFPCAREN	s4rpfpcaren:w4 # paid professionals who help S with ADLs/IADL	Cont
1	R1RPFPCAREDPM	r1rpfpcaredpm:w1 days/month paid professionals help R with AD	Cont
2	R2RPFPCAREDPM	r2rpfpcaredpm:w2 days/month paid professionals help R with AD	Cont
3	R3RPFPCAREDPM	r3rpfpcaredpm:w3 days/month paid professionals help R with AD	Cont
4	R4RPFPCAREDPM	r4rpfpcaredpm:w4 days/month paid professionals help R with AD	Cont
2	S2RPFPCAREDPM	s2rpfpcaredpm:w2 days/month paid professionals help S with AD	Cont
3	S3RPFPCAREDPM	s3rpfpcaredpm:w3 days/month paid professionals help S with AD	Cont
4	S4RPFPCAREDPM	s4rpfpcaredpm:w4 days/month paid professionals help S with AD	Cont
1	R1RPFPCAREDPMM	r1rpfpcaredpmm:w1 R # paid professionals missing days of help	Cont
2	R2RPFPCAREDPMM	r2rpfpcaredpmm:w2 R # paid professionals missing days of help	Cont
3	R3RPFPCAREDPMM	r3rpfpcaredpmm:w3 R # paid professionals missing days of help	Cont
4	R4RPFPCAREDPMM	r4rpfpcaredpmm:w4 R # paid professionals missing days of help	Cont
1	S1RPFPCAREDPMM	s1rpfpcaredpmm:w1 S # paid professionals missing days of help	Cont
2	S2RPFPCAREDPMM	s2rpfpcaredpmm:w2 S # paid professionals missing days of help	Cont
3	S3RPFPCAREDPMM	s3rpfpcaredpmm:w3 S # paid professionals missing days of help	Cont
4	S4RPFPCAREDPMM	s4rpfpcaredpmm:w4 S # paid professionals missing days of help	Cont
1	R1RPFPCAREHR	r1rpfpcarehr:w1 hours/day paid professionals help R with ADLs	Cont
2	R2RPFPCAREHR	r2rpfpcarehr:w2 hours/day paid professionals help R with ADLs	Cont
3	R3RPFPCAREHR	r3rpfpcarehr:w3 hours/day paid professionals help R with ADLs	Cont
4	R4RPFPCAREHR	r4rpfpcarehr:w4 hours/day paid professionals help R with ADLs	Cont
1	S1RPFPCAREHR	s1rpfpcarehr:w1 hours/day paid professionals help S with ADLs	Cont
2	S2RPFPCAREHR	s2rpfpcarehr:w2 hours/day paid professionals help S with ADLs	Cont
3	S3RPFPCAREHR	s3rpfpcarehr:w3 hours/day paid professionals help S with ADLs	Cont
4	S4RPFPCAREHR	s4rpfpcarehr:w4 hours/day paid professionals help S with ADLs	Cont
1	R1RPFPCAREHRM	r1rpfpcarehrm:w1 R # paid professionals missing hours of help	Cont
2	R2RPFPCAREHRM	r2rpfpcarehrm:w2 R # paid professionals missing hours of help	Cont
3	R3RPFPCAREHRM	r3rpfpcarehrm:w3 R # paid professionals missing hours of help	Cont
4	R4RPFPCAREHRM	r4rpfpcarehrm:w4 R # paid professionals missing hours of help	Cont
1	S1RPFPCAREHRM	s1rpfpcarehrm:w1 S # paid professionals missing hours of help	Cont
2	S2RPFPCAREHRM	s2rpfpcarehrm:w2 S # paid professionals missing hours of help	Cont

3 S3RPFCAREHRM s3rpfcarehrm:w3 S # paid professionals missing hours of help Cont  
 4 S4RPFCAREHRM s4rpfcarehrm:w4 S # paid professionals missing hours of help Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RPFCARE	1774	0.03	0.17	0.00	1.00
R2RPFCARE	1663	0.00	0.04	0.00	1.00
R3RPFCARE	2318	0.03	0.17	0.00	1.00
R4RPFCARE	2516	0.03	0.18	0.00	1.00
S1RPFCARE	1148	0.01	0.11	0.00	1.00
S2RPFCARE	1019	0.00	0.00	0.00	0.00
S3RPFCARE	1251	0.02	0.13	0.00	1.00
S4RPFCARE	1277	0.01	0.11	0.00	1.00
R1RPFCAREN	1774	0.03	0.20	0.00	3.00
R2RPFCAREN	1663	0.00	0.04	0.00	1.00
R3RPFCAREN	2318	0.03	0.18	0.00	2.00
R4RPFCAREN	2516	0.04	0.21	0.00	3.00
S1RPFCAREN	1148	0.01	0.11	0.00	1.00
S2RPFCAREN	1019	0.00	0.00	0.00	0.00
S3RPFCAREN	1251	0.02	0.13	0.00	1.00
S4RPFCAREN	1277	0.01	0.13	0.00	3.00
R1RPFCAREDPM	1774	0.91	5.50	0.00	90.00
R2RPFCAREDPM	1663	0.05	1.27	0.00	30.00
R3RPFCAREDPM	2317	0.65	4.26	0.00	60.00
R4RPFCAREDPM	2516	0.78	5.11	0.00	90.00
S2RPFCAREDPM	1019	0.00	0.00	0.00	0.00
S3RPFCAREDPM	1251	0.33	2.91	0.00	30.00
S4RPFCAREDPM	1277	0.33	3.65	0.00	90.00
R1RPFCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RPFCAREDPMM	1663	0.00	0.00	0.00	0.00
R3RPFCAREDPMM	2318	0.00	0.02	0.00	1.00
R4RPFCAREDPMM	2516	0.00	0.00	0.00	0.00
S1RPFCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RPFCAREDPMM	1019	0.00	0.00	0.00	0.00
S3RPFCAREDPMM	1251	0.00	0.00	0.00	0.00
S4RPFCAREDPMM	1277	0.00	0.00	0.00	0.00
R1RPFCAREHR	1774	0.33	2.37	0.00	48.00
R2RPFCAREHR	1663	0.02	0.39	0.00	12.00
R3RPFCAREHR	2318	0.32	2.26	0.00	30.00
R4RPFCAREHR	2516	0.33	2.34	0.00	36.00
S1RPFCAREHR	1148	0.10	1.05	0.00	24.00
S2RPFCAREHR	1019	0.00	0.00	0.00	0.00
S3RPFCAREHR	1251	0.20	1.86	0.00	24.00
S4RPFCAREHR	1277	0.10	1.26	0.00	24.00
R1RPFCAREHRM	1774	0.00	0.00	0.00	0.00
R2RPFCAREHRM	1663	0.00	0.00	0.00	0.00
R3RPFCAREHRM	2318	0.00	0.00	0.00	0.00
R4RPFCAREHRM	2516	0.00	0.00	0.00	0.00
S1RPFCAREHRM	1148	0.00	0.00	0.00	0.00
S2RPFCAREHRM	1019	0.00	0.00	0.00	0.00

S3RPFPCAREHRM	1251	0.00	0.00	0.00	0.00
S4RPFPCAREHRM	1277	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RPFPCARE	R2RPFPCARE	R3RPFPCARE	R4RPFPCARE
.d:DK	1		1	6
.h:no help received	812	732	1771	1666
.m:Missing	40	30		40
.r:Refuse	2		1	1
.x:no difficulty	12557	11279	11632	10550
0.No	1718	1660	2250	2433
1.Yes	56	3	68	83

Value-----	S1RPFPCARE	S2RPFPCARE	S3RPFPCARE	S4RPFPCARE
.d:DK			1	5
.h:no help received	501	489	1213	1072
.m:Missing	14	8		10
.r:Refuse	1			
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.x:no difficulty	8984	8048	8127	7288
0.No	1134	1019	1229	1262
1.Yes	14		22	15

## How Constructed

The following variables indicate whether paid formal caregivers help the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in waves 1 and 2 and up to 8 people in waves 3 and 4 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in waves 1 and 2 and from the individual files in waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRPFPCARE, RwRPFPCAREN, RwRPFPCAREDP, RwRPFPCAREDPMM, RwRPFPCAREHR, and RwRPFPCAREHRM include help from a paid person.

RwRPFPCARE indicates whether any paid professionals help the respondent with ADL or IADL needs. RwRPFPCAREN indicates the number of paid professionals who help the respondent with ADL or IADL needs. RwRPFPCARE is coded as 0 if no paid professionals help the respondent with ADLs or IADLs; and is coded as 1 if at least one paid professional helps the respondent with ADLs or IADLs.

RwRPFPCAREDP indicates the number of total days per month paid professionals help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that paid professional, then a value of 30 is assumed. RwRPFPCAREDP is the sum of days per month for all paid professional helpers, and so values can be over 30 days. RwRPFPCAREDP is calculated as long as there is one non-missing value.

RwRPFCAREDPM is assigned a value of 0 if the respondent did not receive help from any paid professionals. RwRPFCAREDPMM indicates the number of paid professionals who helped the respondent for whom no value of days was reported and was not accounted for in RwRPFCAREDPM. RwRPFCAREDPMM is assigned special missing value .m if the respondent was not helped by any paid professionals.

RwRPFCAREHR indicates the number of hours per day paid professionals help the respondent with ADL or IADL needs. Respondents are asked, on days paid professionals help, how many hours per day that is. If the respondent reports less than an hour for that paid professional, then a 1 is assumed. RwRPFCAREHR is the sum of hours per day for all paid professional helpers, and so values can be over 24 hours. RwRPFCAREHR is calculated as long as there is one non-missing value. RwRPFCAREHR is assigned a value of 0 if the respondent does not receive help from any paid professionals. RwRPFCAREHRM indicates the number of paid professionals who helped the respondent for whom no value of hours was reported and was not accounted for in RwRPFCAREHR. RwRPFCAREHRM is assigned special missing value .m if the respondent was not helped by any paid professionals.

SwRPFCARE, SwRPFCAREN, SwRPFCAREDPM, and SwRPFCAREHR indicate whether the respondent's current wave's spouse receives help from paid professionals, the number, and the frequency with which, and their values are taken from RwRPFCARE, RwRPFCAREN, RwRPFCAREDPM, and RwRPFCAREHR. SwRPFCAREDPMM and SwRPFCAREHRM indicate the number of paid professionals who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRPFCAREDPMM and RwRPFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in waves 1 and 2, and up to 8 caregivers in waves 3 and 4 each for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RwRPFCARE in the Harmonized MHAS is also comparable to RwRFAANY in the Harmonized HRS, indicating any formal care for ADLs and IADLs, because the MHAS does not have a category for unpaid formal caregivers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

RwRPFCAREDPW in the Harmonized HRS indicates the days per week the respondent received help, while RwRPFCAREDPM in the Harmonized MHAS indicates the days per month the respondent received help. As such, adjustment must be made before comparison of these variables.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed

H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs

H22\_8\_12 Relationship with helper for ADLs  
 H23\_1\_12 Registration number of helper for ADLs  
 H23\_2\_12 Registration number of helper for ADLs  
 H23\_3\_12 Registration number of helper for ADLs  
 H23\_4\_12 Registration number of helper for ADLs  
 H23\_5\_12 Registration number of helper for ADLs  
 H23\_6\_12 Registration number of helper for ADLs  
 H23\_7\_12 Registration number of helper for ADLs  
 H23\_8\_12 Registration number of helper for ADLs  
 H24\_1\_12 Number of days (name) helped last month  
 H24\_2\_12 Number of days (name) helped last month  
 H24\_3\_12 Number of days (name) helped last month  
 H24\_4\_12 Number of days (name) helped last month  
 H24\_5\_12 Number of days (name) helped last month  
 H24\_6\_12 Number of days (name) helped last month  
 H24\_7\_12 Number of days (name) helped last month  
 H24\_8\_12 Number of days (name) helped last month  
 H25\_1\_12 Number of hours during those days (NAME) helped  
 H25\_2\_12 Number of hours during those days (NAME) helped  
 H25\_3\_12 Number of hours during those days (NAME) helped  
 H25\_4\_12 Number of hours during those days (NAME) helped  
 H25\_5\_12 Number of hours during those days (NAME) helped  
 H25\_6\_12 Number of hours during those days (NAME) helped  
 H25\_7\_12 Number of hours during those days (NAME) helped  
 H25\_8\_12 Number of hours during those days (NAME) helped  
 H26C\_12 Does anyone help you prepare a hot meal  
 H27C\_12 Does anyone help you shop for groceries  
 H28C\_12 Does anyone help you take medications  
 H29C\_12 Does anyone one help you manage your money  
 H32\_1\_12 Relationship with helper for IADLs  
 H32\_2\_12 Relationship with helper for IADLs  
 H32\_3\_12 Relationship with helper for IADLs  
 H32\_4\_12 Relationship with helper for IADLs  
 H32\_5\_12 Relationship with helper for IADLs  
 H32\_6\_12 Relationship with helper for IADLs  
 H32\_7\_12 Relationship with helper for IADLs  
 H32\_8\_12 Relationship with helper for IADLs  
 H33\_1\_12 Registration number of helper for IADLs  
 H33\_2\_12 Registration number of helper for ADLs  
 H33\_3\_12 Registration number of helper for IADLs  
 H33\_4\_12 Registration number of helper for IADLs  
 H33\_5\_12 Registration number of helper for IADLs  
 H33\_6\_12 Registration number of helper for IADLs  
 H33\_7\_12 Registration number of helper for IADLs  
 H33\_8\_12 Registration number of helper for IADLs  
 H34\_1\_12 Number of days (name) helped last month  
 H34\_2\_12 Number of days (name) helped last month  
 H34\_3\_12 Number of days (name) helped last month  
 H34\_4\_12 Number of days (name) helped last month  
 H34\_5\_12 Number of days (name) helped last month  
 H34\_6\_12 Number of days (name) helped last month  
 H34\_7\_12 Number of days (name) helped last month  
 H34\_8\_12 Number of days (name) helped last month  
 H35\_1\_12 Number of hours during those days (NAME) helped  
 H35\_2\_12 Number of hours during those days (NAME) helped  
 H35\_3\_12 Number of hours during those days (NAME) helped  
 H35\_4\_12 Number of hours during those days (NAME) helped  
 H35\_5\_12 Number of hours during those days (NAME) helped  
 H35\_6\_12 Number of hours during those days (NAME) helped  
 H35\_7\_12 Number of hours during those days (NAME) helped  
 H35\_8\_12 Number of hours during those days (NAME) helped

Wave 4:

H14\_15 Does someone help respondent to get dressed



H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADLs
H32_2_15	Respondent's relationship with person helping with IADLs
H32_3_15	Respondent's relationship with person helping with IADLs
H32_4_15	Respondent's relationship with person helping with IADLs
H32_5_15	Respondent's relationship with person helping with IADLs
H32_6_15	Respondent's relationship with person helping with IADLs
H32_7_15	Respondent's relationship with person helping with IADLs
H32_8_15	Respondent's relationship with person helping with IADLs
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month

H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

<b>Receives Help with Chores from Children or Grandchildren</b>
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Wave	Variable	Label	Type
1	H1RCCHORE	h1rcchore:w1 R+S receives help with chores from children/gra	Categ
2	H2RCCHORE	h2rcchore:w2 R+S receives help with chores from children/gra	Categ
3	H3RCCHORE	h3rcchore:w3 R+S receives help with chores from children/gra	Categ
4	H4RCCHORE	h4rcchore:w4 R+S receives help with chores from children/gra	Categ
2	H2RCCHORENF	h2rcchorenf:w2 R+S receive enough help with chores from chil	Categ
3	H3RCCHORENF	h3rcchorenf:w3 R+S receive enough help with chores from chil	Categ
4	H4RCCHORENF	h4rcchorenf:w4 R+S receive enough help with chores from chil	Categ
3	H3RCCHOREHR	h3rcchorehr:w3 hours/year children/grandchildren help with c	Cont
4	H4RCCHOREHR	h4rcchorehr:w4 hours/year children/grandchildren help with c	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1RCCHORE	14862	0.48	0.50	0.00	1.00
H2RCCHORE	13442	0.45	0.50	0.00	1.00
H3RCCHORE	14938	0.47	0.50	0.00	1.00
H4RCCHORE	14252	0.52	0.50	0.00	1.00
H2RCCHORENF	11557	2.33	0.57	1.00	3.00
H3RCCHORENF	13441	2.22	0.61	1.00	3.00
H4RCCHORENF	13466	2.16	0.60	1.00	3.00
H3RCCHOREHR	14853	530.64	1276.71	0.00	8760.00
H4RCCHOREHR	14198	453.53	983.63	0.00	8760.00

### Categorical Variable Codes

Value-----	H1RCCHORE	H2RCCHORE	H3RCCHORE	H4RCCHORE
.c:no living children	743	589	744	628
.d:DK	20	6	6	7
.m:Missing	32	25	16	34
.r:Refuse	24	2	19	12
0.No	7802	7458	7886	6896
1.Yes	7060	5984	7052	7356

Value-----	H2RCCHORENF	H3RCCHORENF	H4RCCHORENF
.c:no living children	383	744	628
.d:DK	458	335	108
.m:Missing	121	16	34
.p:Proxy interview, not asked	422	847	533
.r:Refuse	1098	340	164
1.more than enough	617	1299	1480
2.enough	6499	7847	8328
3.not enough	4441	4295	3658

### How Constructed

HwRCCHORE indicates whether the respondent's and spouse's children, children-in-law, and/or grandchildren spent at least one hour a week helping the respondent and his/her spouse with household chores, errands, transportation, and similar activities in the last two years. HwRCCHORE is assigned a value of 0 if the respondent and his/her spouse did not receive at least one hour a week of help from their children, and is assigned a 1 if the respondent and his/her spouse did receive at least one hour a week of help from their children. HwRCCHORE is assigned special missing value .c if the respondent and his/her spouse do not have any living children. Don't know, refused, and other missing responses are assigned special

missing values .d, .r, .m, respectively. HwRCCHORE is assigned plain missing (.) if the respondent did not participate in the current wave.

HwRCCHORENF indicates how the respondent and his/her spouse would describe the amount of help with household chores received from their children, children-in-law, and/or grandchildren. This question is asked regardless of whether the respondent and his/her spouse received at least one hour a week of help with household chores from their children in the past two years. HwRCCHORENF is coded as follows: 1.more than enough, 2.enough, 3.not enough. HwRCCHORENF is assigned special missing value .c if the respondent and his/her spouse do not have any living children. HwRCCHORENF is assigned special missing value .p if this question is skipped because the section is answered by proxy respondent. Don't know, refused, and other missing responses are assigned special missing values .d, .r, .m, respectively. HwRCCHORENF is assigned plain missing (.) if the respondent did not participate in the current wave.

HwRCCHOREHR indicates how many hours per year the respondent and his/her spouse received help with household chores from their children, children-in-law, or grandchildren in the last two years. Respondents are able to report the total number of hours in days, weeks, months, or years, the responses to which have been converted to the number of hours in a year. HwRCCHOREHR is assigned a value of 0 if the respondent and his/her spouse did not receive at least one hour a week of help. HwRCCHOREHR is assigned special missing value .c if the respondent and his/her spouse do not have any living children. HwRCCHOREHR is assigned special missing value .i if the respondent reports receiving more than 24 hours of help per day. Don't know, refused, and other missing responses are assigned special missing values .d, .r, .m, respectively. HwRCCHOREHR is assigned plain missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

The respondent is asked whether the respondent and his/her spouse receive help with household chores from their children at least one hour a week, and how they would describe that amount of help starting in wave 2.

Starting in wave 3, the respondent is asked how many hours the respondent and his/her spouse received help with household chores from their children.

## Differences with the RAND HRS/Harmonized HRS

There is no comparable question in the HRS.

## MHAS Variables Used

### Wave 1:

G2                    alive children  
G25                    assistance from children

### Wave 2:

G1B                    status of children  
G24                    (grand)children spent at least one hour helping you  
G31                    physical help from others was sufficient  
TIPENT\_03            Type of interview 2003

### Wave 3:

G24\_12                Last 2 years:Respondent received >1 hour per week..from  
G25B1\_12             Last 2 years:Number of hours respondent... from childre  
G25B2\_12             Last 2 years:Respondent's period to report receiving ho  
G27\_12                Opinion of non-financial assistance received from child  
G2\_12                 Does respondent/spouse have living children  
TIPENTG\_12            Type of interview section G 2012

### Wave 4:

G24\_15                Last 2 years:Respondent received >1 hour per week..from  
G25B1\_15             Last 2 years:Number of hours respondent... from childre  
G25B2\_15             Last 2 years:Respondent's period to report receiving ho  
G27\_15                Opinion of non-financial assistance received from child  
G2\_15                 Does respondent/spouse have living children  
TIPENTG\_15            Type of interview Section G 2015

<b>Provides Informal Care</b>
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Wave	Variable	Label	Type
1	H1GCAANY	h1gcaany:w1 R+S provide any informal care	Categ
2	H2GCAANY	h2gcaany:w2 R+S provide any informal care	Categ
3	H3GCAANY	h3gcaany:w3 R+S provide any informal care	Categ
4	H4GCAANY	h4gcaany:w4 R+S provide any informal care	Categ
1	H1GCCARE_M	h1gccare_m:w1 R+S provide informal care to children/grandchi	Categ
2	H2GCCARE_M	h2gccare_m:w2 R+S provide informal care to children/grandchi	Categ
3	H3GCCARE_M	h3gccare_m:w3 R+S provide informal care to children/grandchi	Categ
4	H4GCCARE_M	h4gccare_m:w4 R+S provide informal care to children/grandchi	Categ
1	H1GCCAREHR_M	h1gccarehr_m:w1 hours/year R+S provide informal care to chil	Cont
2	H2GCCAREHR_M	h2gccarehr_m:w2 hours/year R+S provide informal care to chil	Cont
3	H3GCCAREHR_M	h3gccarehr_m:w3 hours/year R+S provide informal care to chil	Cont
4	H4GCCAREHR_M	h4gccarehr_m:w4 hours/year R+S provide informal care to chil	Cont
1	R1GPCARE	r1gpcare:w1 R provided informal care to parents	Categ
2	R2GPCARE	r2gpcare:w2 R provided informal care to parents	Categ
3	R3GPCARE	r3gpcare:w3 R provided informal care to parents	Categ
4	R4GPCARE	r4gpcare:w4 R provided informal care to parents	Categ
1	S1GPCARE	s1gpcare:w1 S provided informal care to parents	Categ
2	S2GPCARE	s2gpcare:w2 S provided informal care to parents	Categ
3	S3GPCARE	s3gpcare:w3 S provided informal care to parents	Categ
4	S4GPCARE	s4gpcare:w4 S provided informal care to parents	Categ
1	R1GPCAREHR	r1gpcarehr:w1 hours/year R provided informal care to parents	Cont
2	R2GPCAREHR	r2gpcarehr:w2 hours/year R provided informal care to parents	Cont
3	R3GPCAREHR	r3gpcarehr:w3 hours/year R provided informal care to parents	Cont
4	R4GPCAREHR	r4gpcarehr:w4 hours/year R provided informal care to parents	Cont
1	S1GPCAREHR	s1gpcarehr:w1 hours/year S provided informal care to parents	Cont
2	S2GPCAREHR	s2gpcarehr:w2 hours/year S provided informal care to parents	Cont
3	S3GPCAREHR	s3gpcarehr:w3 hours/year S provided informal care to parents	Cont
4	S4GPCAREHR	s4gpcarehr:w4 hours/year S provided informal care to parents	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1GCAANY	15069	0.46	0.50	0.00	1.00
H2GCAANY	13573	0.41	0.49	0.00	1.00
H3GCAANY	15223	0.45	0.50	0.00	1.00
H4GCAANY	14449	0.47	0.50	0.00	1.00
H1GCCARE_M	14867	0.44	0.50	0.00	1.00
H2GCCARE_M	13445	0.38	0.49	0.00	1.00
H3GCCARE_M	14932	0.41	0.49	0.00	1.00
H4GCCARE_M	14250	0.44	0.50	0.00	1.00
H1GCCAREHR_M	14376	738.74	1455.42	0.00	8760.00
H2GCCAREHR_M	13000	537.09	1166.73	0.00	8760.00
H3GCCAREHR_M	14703	569.62	1355.70	0.00	8760.00
H4GCCAREHR_M	14121	497.57	1104.54	0.00	8760.00
R1GPCARE	4723	0.13	0.33	0.00	1.00
R2GPCARE	3790	0.14	0.35	0.00	1.00
R3GPCARE	4625	0.19	0.39	0.00	1.00

R4GPCARE	3739	0.21	0.41	0.00	1.00
S1GPCARE	3856	0.12	0.32	0.00	1.00
S2GPCARE	3073	0.13	0.34	0.00	1.00
S3GPCARE	3495	0.18	0.39	0.00	1.00
S4GPCARE	2797	0.20	0.40	0.00	1.00
R1GPCAREHR	4702	177.19	825.73	0.00	8760.00
R2GPCAREHR	3754	198.00	910.68	0.00	8760.00
R3GPCAREHR	4613	341.13	1283.24	0.00	8760.00
R4GPCAREHR	3740	306.29	1015.72	0.00	8760.00
S1GPCAREHR	3845	153.34	774.96	0.00	8760.00
S2GPCAREHR	3046	168.78	826.23	0.00	8760.00
S3GPCAREHR	3489	285.19	1163.75	0.00	8760.00
S4GPCAREHR	2798	258.80	916.46	0.00	8760.00

## Categorical Variable Codes

Value-----	H1GCAANY	H2GCAANY	H3GCAANY	H4GCAANY
.d:DK	14	2	4	8
.l:no living children & parents	502	413	449	416
.m:Missing	26	22	14	34
.p:Proxy interview, not asked	44	43	17	17
.r:Refuse	12	3	16	5
0.No	8074	7970	8403	7607
1.Yes	6995	5603	6820	6842

Value-----	H1GCCARE_M	H2GCCARE_M	H3GCCARE_M	H4GCCARE_M
.c:no living children	743	589	744	628
.d:DK	19	2	6	9
.m:Missing	32	25	16	34
.r:Refuse	20	3	25	12
0.No	8329	8317	8799	8009
1.Yes	6538	5128	6133	6241

Value-----	R1GPCARE	R2GPCARE	R3GPCARE	R4GPCARE
.d:DK	22	10	5	163
.f:no living parents	9361	8703	10651	10698
.m:Missing	33	22	185	36
.p:Proxy interview, not asked	1032	1178	255	136
.r:Refuse	15	1	2	7
0.No	4124	3252	3740	2938
1.Yes	599	538	885	801

Value-----	S1GPCARE	S2GPCARE	S3GPCARE	S4GPCARE
.d:DK	19	8	3	106
.f:no living parents	6090	5655	6767	6642
.m:Missing	12	6	132	8
.p:Proxy interview, not asked	660	821	194	95
.r:Refuse	11	1	1	4
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	3412	2661	2861	2231
1.Yes	444	412	634	566

## How Constructed

HwGCAANY indicates whether the respondent and his/her spouse provide any informal care to their children, grandchildren, or parents. HwGCAANY is coded as 0 if they did not provide any informal care, and is coded as 1 if they provided informal care. HwGCAANY is assigned special missing value .p if these questions were skipped because the interview was completed by proxy. HwGCAANY is assigned special missing value .l if the respondent and his/her spouse have no living parents or children. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGCAANY is assigned plain missing (.) if the respondent did not participate in the current wave.

HwGCCARE\_M indicates whether the respondent and his/her spouse spent at least one hour a week helping their children, children-in-law, or grandchildren in the last two years. HwGCCARE\_M is coded as 0 if they did not spend at least one hour a week helping their children, and is coded as 1 if they did spend at least one hour a week helping their children. HwGCCARE\_M is assigned special missing value .c if the respondent and his/her spouse have no living children. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGCCARE\_M is assigned plain missing (.) if the respondent did not participate in the current wave.

HwGCCAREHR\_M indicates the number of hours per year the respondent and his/her spouse spent helping their children, children-in-law, or grandchildren in the last two years. Respondents are able to report the total number of hours in days, weeks, months, or years, the responses to which have been converted to the number of hours in a year. HwGCCAREHR\_M is assigned a value of 0 if the respondent and his/her spouse did not spend at least one hour a week providing help. HwGCCAREHR\_M is assigned special missing value .i if the respondent reports providing more than 24 hours per day of help. HwGCCAREHR\_M is assigned special missing value .c if the respondent and his/her spouse have no living children. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGCCAREHR\_M is assigned plain missing (.) if the respondent did not participate in the current wave.

RwGPCARE indicates whether the respondent or his/her spouse spent at least one hour a week helping the respondent's parents with basic personal activities, excluding help with household chores, errands, and transportation. RwGPCARE is coded as 0 if they did not help their parents at all or did so less than one hour a week, and is coded as 1 if they did help their parents at least one hour a week or about 100 hours in the last two years. RwGPCARE is assigned special missing value .f if the respondent has no living parents. RwGPCARE is assigned special missing value .p if this question was skipped because the interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. RwGPCARE is assigned plain missing (.) if the respondent did not participate in the current wave.

RwGPCAREHR indicates the number of hours the respondent or his/her spouse spent helping the respondent's parents with basic personal activities because of a health problem in the last two years. Respondents are able to report the total number of hours in days, weeks, months, or years, the responses to which have been converted to the number of hours in a year. HwGPCAREHR is assigned a value of 0 if the respondent or his/her spouse did not spend at least one hour a week providing help. RwGPCAREHR is assigned special missing value .i if the respondent reports providing more than 24 hours per day of help. HwGPCAREHR is assigned special missing value .f if the respondent has no living parents. RwGPCAREHR is assigned special missing value .p if this question was skipped because the interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGPCAREHR is assigned plain missing (.) if the respondent did not participate in the current wave.

SwGPCARE and SwGPCAREHR indicate whether the respondent's current wave's spouse or the respondent spent at least one hour a week helping the respondent's spouse's parents with basic personal activities, and the number of hours provided per year, and their values are taken from RwGPCARE and RwGPCAREHR. In addition to the special missing values employed by RwGPCARE and RwGPCAREHR, SwGPCARE and SwGPCAREHR employ two additional special missing values, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents in Wave 5 are not asked how many hours of help they provided to their parents.

## Differences with the RAND HRS/Harmonized HRS

The HRS asks whether the respondent helps take care of their grandchildren, which is available as HwGKSIT in the Harmonized HRS and through several additional variables in the RAND HRS Family. The MHAS asks whether the respondent cares for their children or grandchildren, which is available in HwGCCARE\_M in the Harmonized MHAS. In the HRS, family respondents are asked about personal help and help with chores provided to the respondent's and/or their spouse's parents, whereas in the MHAS, individual respondents are asked about personal help provided to their parents. As such, HwGPCARE in the Harmonized HRS includes personal help and chore help given to parents from the respondent and/or their spouse, while RwGPCARE in the Harmonized MHAS includes personal help given to parents from the respondent. There are additional variables related to care given to parents available in the RAND HRS Family.

**MHAS Variables Used**

## Wave 1:

F33 parents alive  
 F37 assisted parents  
 F38 assisted parents 100 hours  
 F40\_1 times assistance to parents  
 F40\_2 period assistance to parents  
 G11 assistance to children  
 G13\_1 hours assisting children  
 G13\_2 period assisting children  
 G2 alive children

## Wave 2:

F39 interviewer: how many parents are alive  
 F43 help to parents with to perform basics  
 F44 help was at least an hour a week  
 F46\_1 hours spent helping them - number of hours  
 F46\_2 hours spent helping them - period  
 G10 spent 1 hr a week helping (grand)children  
 G12\_1 how many hours spent helping per period - number of hou  
 G12\_2 how many hours spent helping per period - per period  
 G1B status of children

## Wave 3:

F10A\_12 Last interview:Was respondent's father living  
 F12\_12 Currently:Is respondent's father living  
 F1A\_12 Last interview:Was respondent's mother living  
 F3\_12 Currently:Is respondent's mother living  
 F43\_12 Last 2 years:Did respondent/spouse provide...assistance  
 F44\_12 Last 2 years:Did respondent assist parent(s) for >1 hou  
 F46\_1\_12 Number of hours respondent spent helping his/her parent  
 F46\_2\_12 Period to report spending time helping his/her parent(s)  
 G10\_12 Last 2 years:Respondent/spouse spent at least 1 hour...  
 G12\_1\_12 Respondent's total hours spent...children/grandchildren  
 G12\_2\_12 Period respondent reported assisting children/grandchil  
 G2\_12 Does respondent/spouse have living children

## Wave 4:

F12\_15 Is respondent's father alive  
 F3\_15 Is respondent's mother alive  
 F43\_15 In the last 2 years:Did respondent/spouse provide...ass  
 F44\_15 Last 2 years:Did respondent assist parent(s) for >1 hou  
 F46\_1\_15 Number of hours respondent spent helping his/her parent  
 F46\_2\_15 Period to report spending time helping his/her parent(s)  
 G10\_15 Last 2 years:Respondent/spouse spent at least 1 hour...  
 G12\_1\_15 Respondent's total hours spent...children/grandchildren  
 G12\_2\_15 Period respondent reported assisting children/grandchil  
 G2\_15 Does respondent/spouse have living children



## **Section M: Stress**

<b>Social Support: Spouse</b>
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Wave	Variable	Label	Type
2	R2SUSTDFE_M	r2sustdfe_m:w2 R Thinks spouse understands the way they feel	Categ
3	R3SUSTDFE_M	r3sustdfe_m:w3 R Thinks spouse understands the way they feel	Categ
2	S2SUSTDFE_M	s2sustdfe_m:w2 S Thinks spouse understands the way they feel	Categ
3	S3SUSTDFE_M	s3sustdfe_m:w3 S Thinks spouse understands the way they feel	Categ
2	R2SRELY_M	r2srely_m:w2 R can rely on spouse for a serious problem	Categ
3	R3SRELY_M	r3srely_m:w3 R Can rely on spouse for a serious problem	Categ
2	S2SRELY_M	s2srely_m:w2 S can rely on spouse for a serious problem	Categ
3	S3SRELY_M	s3srely_m:w3 S Can rely on spouse for a serious problem	Categ
2	R2SOPENUP_M	r2sopenup_m:w2 R can open up their worries to spouse	Categ
3	R3SOPENUP_M	r3sopenup_m:w3 R Can open up their worries to spouse	Categ
2	S2SOPENUP_M	s2sopenup_m:w2 S can open up their worries to spouse	Categ
3	S3SOPENUP_M	s3sopenup_m:w3 S Can open up their worries to spouse	Categ
2	R2SLETDOW_M	r2sletdow_m:w2 Spouse let R down when counting on them	Categ
3	R3SLETDOW_M	r3sletdow_m:w3 Spouse let R down when counting on them	Categ
2	S2SLETDOW_M	s2sletdow_m:w2 Spouse let S down when counting on them	Categ
3	S3SLETDOW_M	s3sletdow_m:w3 Spouse let S down when counting on them	Categ
2	R2SSUPPORT4_M	r2ssupport4_m:w2 R's spouse support summary mean score	Cont
3	R3SSUPPORT4_M	r3ssupport4_m:w3 R's spouse support summary mean score	Cont
2	S2SSUPPORT4_M	s2ssupport4_m:w2 S's spouse support summary mean score	Cont
3	S3SSUPPORT4_M	s3ssupport4_m:w3 S's spouse support summary mean score	Cont
2	R2SSUPPORT4M_M	r2ssupport4m_m:w2 Missings in R's spouse support summary mea	Cont
3	R3SSUPPORT4M_M	r3ssupport4m_m:w3 Missings in R's spouse support summary mea	Cont
2	S2SSUPPORT4M_M	s2ssupport4m_m:w2 Missings in S's spouse support summary mea	Cont
3	S3SSUPPORT4M_M	s3ssupport4m_m:w3 Missings in S's spouse support summary mea	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2SUSTDFE_M	8813	1.35	0.58	1.00	3.00
R3SUSTDFE_M	10150	1.35	0.58	1.00	3.00
S2SUSTDFE_M	8691	1.35	0.58	1.00	3.00
S3SUSTDFE_M	5353	1.37	0.60	1.00	3.00
R2SRELY_M	8820	1.25	0.54	1.00	3.00
R3SRELY_M	10162	1.24	0.52	1.00	3.00
S2SRELY_M	8698	1.25	0.54	1.00	3.00
S3SRELY_M	5357	1.25	0.54	1.00	3.00
R2SOPENUP_M	8823	1.32	0.59	1.00	3.00
R3SOPENUP_M	10158	1.32	0.58	1.00	3.00
S2SOPENUP_M	8700	1.31	0.59	1.00	3.00
S3SOPENUP_M	5354	1.33	0.60	1.00	3.00

R2SLETDOW_M	8731	2.49	0.72	1.00	3.00
R3SLETDOW_M	10095	2.31	0.81	1.00	3.00
S2SLETDOW_M	8609	2.49	0.72	1.00	3.00
S3SLETDOW_M	5328	2.34	0.80	1.00	3.00
R2SSUPPORT4_M	8839	1.36	0.50	1.00	3.00
R3SSUPPORT4_M	10168	1.40	0.47	1.00	3.00
S2SSUPPORT4_M	8715	1.36	0.50	1.00	3.00
S3SSUPPORT4_M	5359	1.40	0.49	1.00	3.00
R2SSUPPORT4M_M	13704	1.43	1.91	0.00	4.00
R3SSUPPORT4M_M	15723	1.42	1.91	0.00	4.00
S2SSUPPORT4M_M	9564	0.37	1.14	0.00	4.00
S3SSUPPORT4M_M	7100	0.99	1.72	0.00	4.00

### Categorical Variable Codes

Value-----	R2SUSTDFE_M	R3SUSTDFE_M
.d:DK	30	22
.f:Not married/coupled	3659	4813
.m:Missing	3	
.p:Proxy interview, not asked	1178	727
.r:Refuse	21	11
1.A lot	6208	7146
2.Little	2110	2452
3.Not at all	495	552

Value-----	S2SUSTDFE_M	S3SUSTDFE_M
.d:DK	29	12
.f:Not married/coupled	2	1293
.m:Missing	2	
.p:Proxy interview, not asked	821	439
.r:Refuse	19	3
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	6138	3715
2.Little	2067	1297
3.Not at all	486	341

Value-----	R2SRELY_M	R3SRELY_M
.d:DK	26	9
.f:Not married/coupled	3659	4813
.m:Missing	3	
.p:Proxy interview, not asked	1178	727
.r:Refuse	18	12
1.A lot	7041	8206
2.Little	1312	1483
3.Not at all	467	473

Value-----	S2SRELY_M	S3SRELY_M
.d:DK	26	6
.f:Not married/coupled	2	1293
.m:Missing	2	
.p:Proxy interview, not asked	821	439
.r:Refuse	15	5
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	6951	4280
2.Little	1291	791
3.Not at all	456	286

Value-----	R2SOPENUP_M	R3SOPENUP_M
.d:DK	23	11

.f:Not married/coupled	3659	4813
.m:Missing	3	
.p:Proxy interview, not asked	1178	727
.r:Refuse	18	14
1.A lot	6600	7541
2.Little	1655	2001
3.Not at all	568	616
Value-----	S2SOPENUP_M	S3SOPENUP_M
.d:DK	23	8
.f:Not married/coupled	2	1293
.m:Missing	2	
.p:Proxy interview, not asked	821	439
.r:Refuse	16	6
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	6523	3923
2.Little	1621	1077
3.Not at all	556	354
Value-----	R2SLETDOW_M	R3SLETDOW_M
.d:DK	92	63
.f:Not married/coupled	3659	4813
.m:Missing	3	
.p:Proxy interview, not asked	1178	727
.r:Refuse	41	25
1.A lot	1200	2232
2.Little	2051	2457
3.Not at all	5480	5406
Value-----	S2SLETDOW_M	S3SLETDOW_M
.d:DK	91	28
.f:Not married/coupled	2	1293
.m:Missing	2	
.p:Proxy interview, not asked	821	439
.r:Refuse	39	12
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	1178	1115
2.Little	2015	1293
3.Not at all	5416	2920

## How Constructed

MHAS Waves 2 and 3 include four questions about spouse social support which are only asked if the respondent was presently married or in a consensual union and the interview was not by proxy.

RwSUSTDFE\_M indicates how much the respondent feels their spouse really understands the way they feel about things.

RwSRELY\_M indicates how much the respondent feels they can confide in their spouse if they have a serious problem.

RwSOPENUP\_M indicates how much the respondent feels their spouse would listen if they need to talk about their worries.

RwSLETDOW\_M indicates how much the respondent feels they would be disappointed when they are counting on their spouse.

RwSUSTDFE\_M, RwSRELY\_M, RwsOPENUP\_M and RwsLETDOW\_M are coded as follow: 1. a lot, 2. little and 3. not at all. Special missing .f is assigned if the respondent indicates they were not presently married or in a consensual union and are hence not asked these questions. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwsUSTDFE\_M, SwsRELY\_M, SwsOPENUP\_M and SwsSLETDOW\_M indicate how much the current wave's spouse agrees with statements about their spouse and are taken from the spouse's values to RwsUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsSLETDOW\_M. In addition to the special missing codes used in RwsUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsSLETDOW\_M, SwsUSTDFE\_M, SwsRELY\_M, SwsOPENUP\_M and SwsSLETDOW\_M employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwSSUPPORT4\_M indicates the mean of the answers to four different spouse questions (RwsUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsSLETDOW\_M) and can be used as a summary score. RwSSUPPORT4\_M is calculated for any respondent with at least one non-missing value for its four components. Since RwSSUPPORT4\_M is the variable that indicates how much the respondents feel lack of support by their spouse, we reverse coded the values of RwsSLETDOW\_M to make sure that higher scores indicate less support the respondent feels by their spouse. The coding of RwsUSTDFE\_M, RwsRELY\_M and RwsOPENUP\_M did not change. Special missing .f is assigned if the respondent indicates they were not presently married or in a consensual union and are hence not asked these questions. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Special missing .m is assigned if all four components of the summary score are missing. In Wave 3, the .m values are higher, because we cannot tell if some of the missing responses are due to the fact that the person is not married/coupled or not. The question is asked, however the respondent's response is not available in the data. Don't know and refused responses are assigned special missing values .d and .r, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave. RwSSUPPORT4M\_M counts the number of components with missing values in RwSSUPPORT4\_M, which could be between no missing components (0) and four missing components (4).

SwSSUPPORT4 and SwSSUPPORT4M\_M indicate the mean summary score of the answer to four different spouse support questions and the count of any missing components for the current wave's spouse and are taken from the spouse's values to RwsSUPPORT4 and RwsSUPPORT4M\_M. In addition to the special missing codes used in RwsSUPPORT4\_M and RwsSUPPORT4M\_M, SwSSUPPORT4\_M and SwSSUPPORT4M\_M employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about spouse's social support are only asked in MHAS Wave 2 and 3.

## Differences with the RAND HRS/Harmonized HRS

Unlike HRS, MHAS did not ask the following of the respondent:

1. how often they feel their spouse makes too many demands on them;
2. how much the respondent feels their spouse criticizes them;
3. how much the respondent feels their spouse gets on their nerves.

HRS uses a four-point response scale from "a lot" to "not at all", while MHAS uses a three-point response scale from "a lot" to "not at all."

Also, the following questions wording is slightly different between HRS and MHAS:

1. HRS asks "How much can you rely on them if you have a serious problem?" whereas MHAS asks "How much can you confide in him/her if you have a serious problem?"
2. HRS asks "How much can you open up to them if you need to talk about your worries?" whereas MHAS asks "How much does your spouse listen if you need to talk about your worries?"
3. HRS asks "How much do they let you down when you are counting on them?" whereas MHAS asks "How much does he/she disappoint you when you are you are counting on him/her?"

**MHAS Variables Used**

## Wave 2:

D2	marital status
D3A	spouse understands your feelings
D3B	confide in spouse
D3C	spouse listens
D3D	spouse disappoints

## Wave 3:

A3_12	Current marital status
AA10_12	Respondent's current marital status
D20A_12	Rate your spouse's understanding about your feelings
D20B_12	Rate your confidence level in your spouse regarding a s
D20C_12	Rate your spouse's attention level when speaking to him
D20D_12	Rate your level of disappointment in your spouse

<b>Social Support: Children</b>
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Wave	Variable	Label	Type
2	R2KUSTDFE_M	r2kustdfe_m:w2 R Thinks children understand the way they fee	Categ
3	R3KUSTDFE_M	r3kustdfe_m:w3 R Thinks children understand the way they fee	Categ
2	S2KUSTDFE_M	s2kustdfe_m:w2 S Thinks children understand the way they fee	Categ
3	S3KUSTDFE_M	s3kustdfe_m:w3 S Thinks children understand the way they fee	Categ
2	R2KRELY_M	r2krely_m:w2 R Can rely on children for a serious problem	Categ
3	R3KRELY_M	r3krely_m:w3 R Can rely on children for a serious problem	Categ
2	S2KRELY_M	s2krely_m:w2 S Can rely on children for a serious problem	Categ
3	S3KRELY_M	s3krely_m:w3 S Can rely on children for a serious problem	Categ
2	R2KOPENUP_M	r2kopenup_m:w2 R Can open up their worries to children	Categ
3	R3KOPENUP_M	r3kopenup_m:w3 R Can open up their worries to children	Categ
2	S2KOPENUP_M	s2kopenup_m:w2 S Can open up their worries to children	Categ
3	S3KOPENUP_M	s3kopenup_m:w3 S Can open up their worries to children	Categ
2	R2KLETDOW_M	r2kletdow_m:w2 Children let R down when counting on them	Categ
3	R3KLETDOW_M	r3kletdow_m:w3 Children let R down when counting on them	Categ
2	S2KLETDOW_M	s2kletdow_m:w2 Children let S down when counting on them	Categ
3	S3KLETDOW_M	s3kletdow_m:w3 Children let S down when counting on them	Categ
2	R2KSUPPORT4_M	r2ksupport4_m:w2 R's Children support summary mean score	Cont
3	R3KSUPPORT4_M	r3ksupport4_m:w3 R's children support summary mean score	Cont
2	S2KSUPPORT4_M	s2ksupport4_m:w2 S's Children support summary mean score	Cont
3	S3KSUPPORT4_M	s3ksupport4_m:w3 S's children support summary mean score	Cont
2	R2KSUPPORT4M_M	r2ksupport4m_m:w2 Missings in R's children support summary m	Cont
3	R3KSUPPORT4M_M	r3ksupport4m_m:w3 Missings in R's children support summary m	Cont
2	S2KSUPPORT4M_M	s2ksupport4m_m:w2 Missings in S's children support summary m	Cont
3	S3KSUPPORT4M_M	s3ksupport4m_m:w3 Missings in S's children support summary m	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2KUSTDFE_M	11865	1.31	0.54	1.00	3.00
R3KUSTDFE_M	13543	1.31	0.54	1.00	3.00
S2KUSTDFE_M	8507	1.27	0.51	1.00	3.00
S3KUSTDFE_M	6213	1.29	0.53	1.00	3.00
R2KRELY_M	11867	1.24	0.51	1.00	3.00
R3KRELY_M	13561	1.23	0.50	1.00	3.00
S2KRELY_M	8510	1.21	0.48	1.00	3.00
S3KRELY_M	6224	1.23	0.50	1.00	3.00
R2KOPENUP_M	11871	1.29	0.55	1.00	3.00
R3KOPENUP_M	13556	1.28	0.54	1.00	3.00
S2KOPENUP_M	8513	1.26	0.52	1.00	3.00
S3KOPENUP_M	6218	1.27	0.53	1.00	3.00

R2KLETDOW_M	11747	2.51	0.70	1.00	3.00
R3KLETDOW_M	13489	2.33	0.80	1.00	3.00
S2KLETDOW_M	8424	2.54	0.69	1.00	3.00
S3KLETDOW_M	6203	2.36	0.80	1.00	3.00
R2KSUPPORT4_M	11894	1.33	0.46	1.00	3.00
R3KSUPPORT4_M	13580	1.37	0.45	1.00	3.00
S2KSUPPORT4_M	8524	1.30	0.43	1.00	3.00
S3KSUPPORT4_M	6229	1.35	0.44	1.00	3.00
R2KSUPPORT4M_M	13704	0.54	1.36	0.00	4.00
R3KSUPPORT4M_M	15723	0.56	1.37	0.00	4.00
S2KSUPPORT4M_M	9564	0.45	1.25	0.00	4.00
S3KSUPPORT4M_M	7100	0.50	1.31	0.00	4.00

### Categorical Variable Codes

Value-----	R2KUSTDFE_M	R3KUSTDFE_M
.d:DK	58	57
.f:No children	584	920
.m:Missing	3	
.p:Proxy interview, not asked	1178	1169
.r:Refuse	16	34
1.A lot	8688	9954
2.Little	2721	3026
3.Not at all	456	563

Value-----	S2KUSTDFE_M	S3KUSTDFE_M
.d:DK	28	21
.f:No children	195	272
.m:Missing	2	
.p:Proxy interview, not asked	821	582
.r:Refuse	11	12
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	6422	4684
2.Little	1831	1278
3.Not at all	254	251

Value-----	R2KRELY_M	R3KRELY_M
.d:DK	55	41
.f:No children	584	920
.m:Missing	3	
.p:Proxy interview, not asked	1178	1169
.r:Refuse	17	32
1.A lot	9471	10900
2.Little	1925	2162
3.Not at all	471	499

Value-----	S2KRELY_M	S3KRELY_M
.d:DK	23	11
.f:No children	195	272
.m:Missing	2	
.p:Proxy interview, not asked	821	582
.r:Refuse	13	11
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	6969	5049
2.Little	1280	945
3.Not at all	261	230

Value-----	R2KOPENUP_M	R3KOPENUP_M
.d:DK	52	40



.f:No children	584	920
.m:Missing	3	
.p:Proxy interview, not asked	1178	1169
.r:Refuse	16	38
1.A lot	9010	10354
2.Little	2286	2581
3.Not at all	575	621
Value-----	S2KOPENUP_M	S3KOPENUP_M
.d:DK	21	13
.f:No children	195	272
.m:Missing	2	
.p:Proxy interview, not asked	821	582
.r:Refuse	12	15
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	6621	4827
2.Little	1579	1121
3.Not at all	313	270
Value-----	R2KLETDOW_M	R3KLETDOW_M
.d:DK	94	103
.f:No children	458	920
.m:Missing	199	
.p:Proxy interview, not asked	1178	1169
.r:Refuse	28	42
1.A lot	1449	2876
2.Little	2900	3308
3.Not at all	7398	7305
Value-----	S2KLETDOW_M	S3KLETDOW_M
.d:DK	94	30
.f:No children		272
.m:Missing	197	
.p:Proxy interview, not asked	821	582
.r:Refuse	28	13
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	934	1244
2.Little	2011	1466
3.Not at all	5479	3493

## How Constructed

MHAS Waves 2 and 3 include four questions about children's social support which are only asked if the respondent has living children and the interview was not by proxy.

RwKUSTDFE\_M indicates how much the respondent feels their children really understand the way they feel about things.

RwKRELY\_M indicates how much the respondent feels they can confide in their children if they have a serious problem.

RwKOPENUP\_M indicates how much the respondent feels their children would listen if they need to talk about their worries.

RwKLETDOW\_M indicates how much the respondent feels they would be disappointed when they are counting on their children.

RwKUSTDFE\_M, RwKRELY\_M, RwKOPENUP\_M and RwKLETDOW\_M are coded as follow: 1. a lot, 2. little and 3. not at all. Special missing .f is assigned if the respondent indicates they did not have any children, hence the questions are not asked. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. In Wave 3, the .m values are higher, because we cannot tell if some of the missing responses are due to the fact that the respondent does not have living children or not. The question about having children is asked, however the respondent's response is not available in the data. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwKUSTDFE\_M, SwKRELY\_M, SwKOPENUP\_M and SwKLETDOW\_M indicate how much the current wave's spouse agrees with statements about their children and are taken from the spouse's values to RwkUSTDFE\_M, RwkRELY\_M, RwkOPENUP\_M and RwkLETDOW\_M. In addition to the special missing codes used in RwkUSTDFE\_M, RwkRELY\_M, RwkOPENUP\_M and RwkLETDOW\_M, SwKUSTDFE\_M, SwKRELY\_M, SwKOPENUP\_M and SwKLETDOW\_M employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwKSUPPORT4\_M indicates the mean of the answers to four different children questions (RwkUSTDFE\_M, RwkRELY\_M, RwkOPENUP\_M and RwkLETFOW\_M) and can be used as a summary score. RwKSUPPORT4\_M is calculated for any respondent with at least one non-missing value for its four components. Since RwKSUPPORT4\_M is the variable that indicates how much the respondents feel lack of support by their children, we reverse coded the values of RwkLETDOW\_M to make sure that higher scores indicate less support the respondent feels by their children. The coding of RwkUSTDFE\_M, RwkRELY\_M and RwkOPENUP\_M did not change. Special missing .f is assigned if the respondent indicates they do not have living children, hence the questions are not asked. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Special missing .m is assigned if all four components of the summary score are missing. In Wave 3, the .m values are higher, because we cannot tell if some of the missing responses are due to the fact that the respondent does not have living children or not. The question about having children is asked, however the respondent's response is not available in the data. Plain missing (.) is assigned for respondents who did not respond to the current wave. RwKSUPPORT4M\_M counts the number of components with missing values in RwKSUPPORT4\_M, which could be between no missing components (0) and four missing components (4).

SwKSUPPORT4\_M and SwKSUPPORT4M\_M indicate the mean summary score of the answers to four different children support questions and the count of any missing components for the current wave's spouse and are taken from the spouse's values to RwkSUPPORT4\_M and RwkSUPPORT4M\_M. In addition to the special missing codes used in RwkSUPPORT4\_M and RwkSUPPORT4M\_M, SwKSUPPORT4\_M and SwKSUPPORT4M\_M employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about children's social support are only asked in MHAS Wave 2 and 3.

## Differences with the RAND HRS/Harmonized HRS

Unlike HRS, MHAS did not ask the following of the respondent:

1. how often they feel their children make too many demands on them;
2. how much the respondent feels their children criticize them;
3. how much the respondent feels their children get on their nerves.

HRS uses a four-point response scale from "a lot" to "not at all", MHAS uses a 3 point response scale from "a lot" to "not at all."

Also, the following questions wording is slightly different between HRS and MHAS:

1. HRS asks "How much can you rely on them if you have a serious problem?" whereas MHAS asks "How much can you confide in them if you have a serious problem?"
2. HRS asks "How much can you open up to them if you need to talk about your worries?" whereas MHAS asks "How much do they listen if you need to talk about your worries?"
3. HRS asks "How much do they let you down when you are counting on them?" whereas MHAS asks "How much do they disappoint you when you are talking to them?"

**MHAS Variables Used**

## Wave 2:

D4	person has living children
D5A	children understand your feelings
D5B	confide in children
D5C	children listen
D5D	children disappoint

## Wave 3:

A7_2_12	Correct number of children born alive
A8_12	Number of children currently living
AA19_12	Respondent's number of children born alive
AA20_12	Of children born alive how many children currently livi
D22A_12	Rate your children's understanding about your feelings
D22B_12	Rate your confidence level in your children regarding a
D22C_12	Rate your children's attention level when speaking to t
D22D_12	Rate your level of disappointment in your children

<b>Social Support: Friends</b>
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Wave	Variable	Label	Type
2	R2FUSTDFE_M	r2fustdfe_m:w2 R Thinks friends understand the way they feel	Categ
3	R3FUSTDFE_M	r3fustdfe_m:w3 R Thinks friends understand the way they feel	Categ
2	S2FUSTDFE_M	s2fustdfe_m:w2 S Thinks friends understand the way they feel	Categ
3	S3FUSTDFE_M	s3fustdfe_m:w3 S Thinks friends understand the way they feel	Categ
2	R2FRELY_M	r2frely_m:w2 R Can rely on friends for a serious problem	Categ
3	R3FRELY_M	r3frely_m:w3 R Can rely on friends for a serious problem	Categ
2	S2FRELY_M	s2frely_m:w2 S Can rely on friends for a serious problem	Categ
3	S3FRELY_M	s3frely_m:w3 S Can rely on friends for a serious problem	Categ
2	R2FOPENUP_M	r2fopenup_m:w2 R Can open up their worries to friends	Categ
3	R3FOPENUP_M	r3fopenup_m:w3 R Can open up their worries to friends	Categ
2	S2FOPENUP_M	s2fopenup_m:w2 S Can open up their worries to friends	Categ
3	S3FOPENUP_M	s3fopenup_m:w3 S Can open up their worries to friends	Categ
2	R2FLETDOWN_M	r2fletdow_m:w2 Friends let R down when counting on them	Categ
3	R3FLETDOWN_M	r3fletdow_m:w3 Friends let R down when counting on them	Categ
2	S2FLETDOWN_M	s2fletdow_m:w2 Friends let S down when counting on them	Categ
3	S3FLETDOWN_M	s3fletdow_m:w3 Friends let S down when counting on them	Categ
2	R2FSUPPORT4_M	r2fsupport4_m:w2 R's Friends support summary mean score	Cont
3	R3FSUPPORT4_M	r3fsupport4_m:w3 R's Friends support summary mean score	Cont
2	S2FSUPPORT4_M	s2fsupport4_m:w2 S's Friends support summary mean score	Cont
3	S3FSUPPORT4_M	s3fsupport4_m:w3 S's Friends support summary mean score	Cont
2	R2FSUPPORT4M_M	r2fsupport4m_m:w2 Missings in R's friends support summary me	Cont
3	R3FSUPPORT4M_M	r3fsupport4m_m:w3 Missings in R's friends support summary me	Cont
2	S2FSUPPORT4M_M	s2fsupport4m_m:w2 Missings in S's friends support summary me	Cont
3	S3FSUPPORT4M_M	s3fsupport4m_m:w3 Missings in S's friends support summary me	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2FUSTDFE_M	8869	1.56	0.65	1.00	3.00
R3FUSTDFE_M	8769	1.54	0.66	1.00	3.00
S2FUSTDFE_M	6241	1.59	0.65	1.00	3.00
S3FUSTDFE_M	3799	1.54	0.65	1.00	3.00
R2FRELY_M	8887	1.64	0.70	1.00	3.00
R3FRELY_M	8805	1.62	0.69	1.00	3.00
S2FRELY_M	6257	1.66	0.70	1.00	3.00
S3FRELY_M	3816	1.62	0.69	1.00	3.00
R2FOPENUP_M	8887	1.58	0.68	1.00	3.00
R3FOPENUP_M	8813	1.57	0.68	1.00	3.00
S2FOPENUP_M	6259	1.60	0.68	1.00	3.00
S3FOPENUP_M	3817	1.57	0.68	1.00	3.00

R2FLETDOW_M	8689	2.43	0.68	1.00	3.00
R3FLETDOW_M	8760	2.36	0.72	1.00	3.00
S2FLETDOW_M	6108	2.42	0.68	1.00	3.00
S3FLETDOW_M	3801	2.40	0.71	1.00	3.00
R2FSUPPORT4_M	8932	1.59	0.54	1.00	3.00
R3FSUPPORT4_M	8836	1.59	0.50	1.00	3.00
S2FSUPPORT4_M	6285	1.61	0.54	1.00	3.00
S3FSUPPORT4_M	3827	1.58	0.50	1.00	3.00
R2FSUPPORT4M_M	13704	1.42	1.90	0.00	4.00
R3FSUPPORT4M_M	15723	1.76	1.98	0.00	4.00
S2FSUPPORT4M_M	9564	1.40	1.89	0.00	4.00
S3FSUPPORT4M_M	7100	1.85	1.99	0.00	4.00

### Categorical Variable Codes

Value-----	R2FUSTDFE_M	R3FUSTDFE_M
.d:DK	119	106
.f:No friends	3519	5554
.m:Missing	3	
.p:Proxy interview, not asked	1178	1275
.r:Refuse	16	19
1.A lot	4700	4795
2.Little	3366	3176
3.Not at all	803	798

Value-----	S2FUSTDFE_M	S3FUSTDFE_M
.d:DK	80	40
.f:No friends	2408	2644
.m:Missing	2	
.p:Proxy interview, not asked	821	606
.r:Refuse	12	11
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	3158	2088
2.Little	2511	1371
3.Not at all	572	340

Value-----	R2FRELY_M	R3FRELY_M
.d:DK	100	71
.f:No friends	3519	5554
.m:Missing	3	
.p:Proxy interview, not asked	1178	1275
.r:Refuse	17	18
1.A lot	4374	4420
2.Little	3360	3307
3.Not at all	1153	1078

Value-----	S2FRELY_M	S3FRELY_M
.d:DK	64	26
.f:No friends	2408	2644
.m:Missing	2	
.p:Proxy interview, not asked	821	606
.r:Refuse	12	8
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	2951	1918
2.Little	2491	1441
3.Not at all	815	457

Value-----	R2FOPENUP_M	R3FOPENUP_M
.d:DK	101	65

.f:No friends	3519	5554
.m:Missing	3	
.p:Proxy interview, not asked	1178	1275
.r:Refuse	16	16
1.A lot	4714	4756
2.Little	3207	3091
3.Not at all	966	966
Value-----	S2FOPENUP_M	S3FOPENUP_M
.d:DK	62	25
.f:No friends	2408	2644
.m:Missing	2	
.p:Proxy interview, not asked	821	606
.r:Refuse	12	8
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	3190	2054
2.Little	2381	1352
3.Not at all	688	411
Value-----	R2FLETDOW_M	R3FLETDOW_M
.d:DK	283	105
.f:No friends	3519	5554
.m:Missing	3	
.p:Proxy interview, not asked	1178	1275
.r:Refuse	32	29
1.A lot	947	1271
2.Little	3033	3029
3.Not at all	4709	4460
Value-----	S2FLETDOW_M	S3FLETDOW_M
.d:DK	201	38
.f:No friends	2408	2644
.m:Missing	2	
.p:Proxy interview, not asked	821	606
.r:Refuse	24	11
.u:Unmar	4009	4007
.v:SP NR	131	63
1.A lot	675	504
2.Little	2222	1286
3.Not at all	3211	2011

## How Constructed

MHAS Waves 2 and 3 include four questions about friend's, acquaintance's, or work colleague's social support which are only asked if the respondent reports that they have friends, acquaintances, or work colleagues and the interview was not by proxy.

RwFUSTDFE\_M indicates how much the respondent feels their friends/acquaintances/work colleagues really understand the way they feel about things.

RwFRELY\_M indicates how much the respondent feels they can confide in their friends/acquaintances/work colleagues if they have a serious problem.

RwFOPENUP\_M indicates how much the respondent feels friends/acquaintances/work colleagues would listen if they need to talk about their worries.

RwFLETDOW\_M indicates how much the respondent feels they would be disappointed when they are counting on their friends/acquaintances/work colleagues.

RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M are coded as follow: 1. a lot, 2. little and 3. not at all. Special missing .f is assigned if the respondent indicates they did not have any friends, hence the questions are not asked. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwFUSTDFE\_M, SwFRELY\_M, SwFOPENUP\_M and SwFLETDOW\_M indicate how much the current wave's spouse agrees with statements about their friends and are taken from the spouse's values to RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M. In addition to the special missing codes used in RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M, SwFUSTDFE\_M, SwFRELY\_M, SwFOPENUP\_M and SwFLETDOW\_M employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwFSUPPORT4\_M indicates the mean of the answers to four different friends questions (RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M) and can be used as a summary score. RwFSUPPORT4\_M is calculated for any respondent with at least one non-missing value for its four components. Since RwFSUPPORT4\_M is the variable that indicates how much the respondents feel lack of support by their friends/acquaintances/work colleagues, we reverse coded the values of RwFLETDOW\_M to make sure that higher scores indicate less support the respondent feels by their friends. The coding of RwFUSTDFE\_M, RwFRELY\_M and RwFOPENUP\_M did not change. RwFSUPPORT4M\_M counts the number of components with missing values in RwFSUPPORT4\_M, which could be between no missing components (0) and four missing components (4).

SwFSUPPORT4\_M and SwFSUPPORT4M\_M indicate the mean summary score of the answers to four different friends support questions and the count of any missing components for the current wave's spouse and are taken from the spouse's values to RwFSUPPORT4\_M and RwFSUPPORT4M\_M. In addition to the special missing codes used in RwFSUPPORT4\_M and RwFSUPPORT4M\_M, SwFSUPPORT4\_M and SwFSUPPORT4M\_M employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about friend's, acquaintance's, or work colleague's social support are only asked in MHAS Wave 2 and 3.

## Differences with the RAND HRS/Harmonized HRS

Unlike HRS, MHAS did not ask the following of the respondent:

1. how often they feel their friends make too many demands on them;
2. how much the respondent feels their friends criticize them;
3. how much the respondent feels their friends get on their nerves.

HRS uses a four-point response scale from "a lot" to "not at all", MHAS uses a three-point response scale from "a lot" to "not at all."

Also, the following questions wording is slightly different between HRS and MHAS:

1. HRS asks "How much can you rely on them if you have a serious problem?" whereas MHAS asks "How much can you confide in them if you have a serious problem?"
2. HRS asks "How much can you open up to them if you need to talk about your worries?" whereas MHAS asks "How much do they listen if you need to talk about your worries?"
3. HRS asks "How much do they let you down when you are counting on them?" whereas MHAS asks "How much do they disappoint you when you are talking to them?"

HRS also just asks about "friends", whereas MHAS extends the questions to "friends/acquaintances/work colleagues."

## MHAS Variables Used

Wave 2:  
D6                    have friends and companions

D7A friends understand  
D7B confide in friends  
D7C friends listen  
D7D friends disappoint

## Wave 3:

D23\_12 Does respondent have friends, acquaintances or work coll  
D24A\_12 Rate your friends understanding about your feelings  
D24B\_12 Rate your confidence level in your friends regarding a  
D24C\_12 Rate your friends attention level when speaking to them  
D24D\_12 Rate your level of disappointment in your friends



## Experienced Death of a Child

Wave	Variable	Label	Type
1	R1CHDEATHE	r1chdeathe:w1 R Ever experienced death of own child	Categ
2	R2CHDEATHE	r2chdeathe:w2 R Ever experienced death of own child	Categ
3	R3CHDEATHE	r3chdeathe:w3 R Ever experienced death of own child	Categ
4	R4CHDEATHE	r4chdeathe:w4 R Ever experienced death of own child	Categ
1	S1CHDEATHE	s1chdeathe:w1 S Ever experienced death of own child	Categ
2	S2CHDEATHE	s2chdeathe:w2 S Ever experienced death of own child	Categ
3	S3CHDEATHE	s3chdeathe:w3 S Ever experienced death of own child	Categ
4	S4CHDEATHE	s4chdeathe:w4 S Ever experienced death of own child	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1CHDEATHE	14379	0.38	0.48	0.00	1.00
R2CHDEATHE	189	0.22	0.42	0.00	1.00
R3CHDEATHE	14845	0.29	0.45	0.00	1.00
R4CHDEATHE	14130	0.29	0.45	0.00	1.00
S1CHDEATHE	10324	0.35	0.48	0.00	1.00
S2CHDEATHE	179	0.22	0.42	0.00	1.00
S3CHDEATHE	10222	0.26	0.44	0.00	1.00
S4CHDEATHE	9450	0.25	0.43	0.00	1.00

### Categorical Variable Codes

Value-----	R1CHDEATHE	R2CHDEATHE	R3CHDEATHE	R4CHDEATHE
.d:DK	29	9	135	16
.n:never had children	771	8	732	627
.q:not available this wave		13497		
.r:Refuse	7	1	11	6
0.No	8943	147	10554	10094
1.Yes	5436	42	4291	4036

Value-----	S1CHDEATHE	S2CHDEATHE	S3CHDEATHE	S4CHDEATHE
.d:DK	20	8	99	10
.n:never had children	300	7	265	189
.q:not available this wave		9369		
.r:Refuse	4	1	6	3
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6702	139	7588	7089
1.Yes	3622	40	2634	2361

### How Constructed

RwCHDEATHE indicates whether the respondent has ever experienced the death of his/her own child.

RwCHDEATHE is given a code of 1 if the respondent reported a number of children currently alive less than the number of children born alive. These questions are part of the fertility section in Demographics. A code of 0 is assigned if the respondent reported the same number of children or if they indicated that all the children were currently alive. Special missing .n is assigned if the respondent indicates they had never had any children and special missing .i is assigned if the respondent reported a number of children currently alive higher than the number of children ever born alive. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. In Wave 2, the fertility questions including the number of children currently alive and the number of children ever born alive were not asked to follow-up respondent, thus RWCHDEATH was only created for new spouses of follow-up

respondents. A special missing value .q is used to indicate the information is not available due to a follow-up interview.

SwCHDEATHE indicates whether the respondent's spouse has experienced the death of his/her own child. Special missing .n is assigned if the respondent indicates they did not have any children and special missing .i is assigned if the respondent reported a number of children currently alive higher than the number of children born alive. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. In addition to the special missing codes used in SwCHDEATHE it employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave, but their spouse is not interviewed.

### Cross Wave Differences in MHAS

In Wave 2, the fertility questions including the number of children currently alive and the number of children ever born alive were not asked to follow-up respondent, thus RWCHDEATH was only created for new spouses of follow-up respondents. A special missing value .q is used to indicate the information is not available due to a follow-up interview.

### Differences with the RAND HRS/Harmonized HRS

Unlike HRS, most of the childhood and lifetime stressful events questions were not asked in the MHAS. In addition, the HRS asks whether the respondent has experienced the death of his/her own child while in the MHAS the variable is created using both the number of children ever born alive and the number of children currently alive.

### MHAS Variables Used

Wave 1:	
A19	number of children born alive
A20	number of children still alive
Wave 3:	
A7_2_12	Correct number of children born alive
A8_12	Number of children currently living
AA19_12	Respondent's number of children born alive
AA20_12	Of children born alive how many children currently livi
Wave 4:	
A7_2_15	Correct number of children born alive
A8_15	Number of children currently alive
AA19_15	Respondent's number of children born alive
AA20_15	Of those children born alive, how many children still a

## **Section O: End of Life Planning**

<b>Will: Whether Has a Will</b>
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Wave	Variable	Label	Type
1	H1WITWILL_M	h1witwill_m:w1 r+s have made arrangements	Categ
2	H2WITWILL_M	h2witwill_m:w2 r+s have made arrangements	Categ
3	H3WITWILL_M	h3witwill_m:w3 r+s have made arrangements	Categ
4	H4WITWILL_M	h4witwill_m:w4 r+s have made arrangements	Categ
3	H3WITWILL	h3witwill:w3 r+s have witnessed will	Categ
4	H4WITWILL	h4witwill:w4 r+s have witnessed will	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1WITWILL_M	13626	0.14	0.34	0.00	1.00
H2WITWILL_M	12307	0.12	0.33	0.00	1.00
H3WITWILL_M	13363	0.17	0.37	0.00	1.00
H4WITWILL_M	12953	0.19	0.39	0.00	1.00
H3WITWILL	13357	0.13	0.33	0.00	1.00
H4WITWILL	12944	0.14	0.35	0.00	1.00

### Categorical Variable Codes

Value-----	H1WITWILL_M	H2WITWILL_M	H3WITWILL_M	H4WITWILL_M
.a:owns no assets	1328	1127	1368	1296
.d:DK	62	7	33	12
.m:Missing	59	31		50
.p:Proxy interview, not asked	502	554	911	588
.r:Refuse	69	13	48	22
0.no	11786	10774	11152	10479
1.yes	1840	1533	2211	2474

Value-----	H3WITWILL	H4WITWILL
.a:owns no assets	1368	1296
.d:DK	36	18
.m:Missing		50
.p:Proxy interview, not asked	911	588
.r:Refuse	51	25
0.no	11668	11111
1.yes	1689	1833

### How Constructed

HwWITWILL\_M is an MHAS specific variable that indicates whether the respondent and his/her spouse have made arrangements to transfer their assets in case of death. HwWITWILL\_M is assigned a 0 if no arrangements have been made, and is assigned a 1 if arrangements have been made to transfer their assets in case of death. HwWITWILL\_M is assigned special missing .p if this question was skipped because the interview was by proxy. HwWITWILL\_M is assigned special missing .a if the respondent voluntarily reports that they do not own assets. Don't know, refused or otherwise missing responses are assigned special missing .d, .r, and .m, respectively. HwWITWILL\_M is set to plain missing (.) for respondents who did not participate in the current wave.

HwWITWILL indicates whether the respondent and his/her spouse have made arrangements to transfer their assets in case of death which have been written in a formal will by a notary. Starting in wave 3, the respondent is first asked whether they have made any arrangements to transfer their assets in case of death, and if so, is then asked if these arrangements are written in a formal will by a notary. HwWITWILL is assigned a 0 if no arrangements have been made or if arrangements have been made but they have not been written in a formal will by a notary. HwWITWILL is assigned a 1 if arrangements have been made and they have been written in a formal will by a notary. HwWITWILL is assigned special missing .p if these

questions were skipped because the interview was by proxy. HwWITWILL is assigned special missing .a if the respondent voluntarily reports that they do not own assets. Don't know, refused or otherwise missing responses are assigned special missing .d, .r, and .m, respectively. HwWITWILL is set to plain missing (.) for respondents who did not participate in the current wave.

## Cross Wave Differences in MHAS

In all waves, the respondent is asked "Have you made any arrangements to transfer your assets in case of death?" Starting in wave 3, if the answer is yes, then the respondent is asked "Are these arrangements written in a formal will by a notary?"

## Differences with the RAND HRS/Harmonized HRS

The HRS asks both the respondent and the spouse whether they have a will that is written and witnessed, the answers to which are presented in RwwITWILL and SwWITWILL in the Harmonized HRS. The MHAS asks at the couple-level whether arrangements have been made to transfer their assets in case of death, which could indicate a formal or informal arrangement, which is presented in HwWITWILL\_M in the Harmonized MHAS. Starting in wave 3 of the MHAS, the respondent is asked whether the arrangements have been written in a formal will by a notary, making the question more comparable to the one asked in the HRS, and the answers to which are presented in HwWITWILL in the Harmonized MHAS.

## MHAS Variables Used

Wave 1:	
ENT_TIP	type of individual interview
K88	transfers plans
Wave 2:	
K93	transfers plans
TIPENT	type of individual interview
Wave 3:	
K93A_12	Arrangements to transfer asset(s) at time of death
K93B_12	Formal arrangements written by a notary
TIPENTK_12	Type of interview section K 2012
Wave 4:	
K93A_15	Arrangements to transfer asset(s) at time of death
K93B_15	Formal arrangements written by a notary
TIPENTK_15	Type of interview section K 2015

**Will: Beneficiaries of Will**

Wave	Variable	Label	Type
1	H1WILLSP	h1willsp:w1 r+s will has provisions for spouse	Categ
2	H2WILLSP	h2willsp:w2 r+s will has provisions for spouse	Categ
3	H3WILLSP	h3willsp:w3 r+s will has provisions for spouse	Categ
4	H4WILLSP	h4willsp:w4 r+s will has provisions for spouse	Categ
1	H1WILLCG	h1willcg:w1 r+s will has provisions for child/grandchild	Categ
2	H2WILLCG	h2willcg:w2 r+s will has provisions for child/grandchild	Categ
3	H3WILLCG	h3willcg:w3 r+s will has provisions for child/grandchild	Categ
4	H4WILLCG	h4willcg:w4 r+s will has provisions for child/grandchild	Categ
1	H1WILLOT	h1willot:w1 r+s will has provisions for other	Categ
2	H2WILLOT	h2willot:w2 r+s will has provisions for other	Categ
3	H3WILLOT	h3willot:w3 r+s will has provisions for other	Categ
4	H4WILLOT	h4willot:w4 r+s will has provisions for other	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1WILLSP	1742	0.66	0.47	0.00	1.00
H2WILLSP	1489	0.63	0.48	0.00	1.00
H3WILLSP	2211	0.62	0.48	0.00	1.00
H4WILLSP	2452	0.61	0.49	0.00	1.00
H1WILLCG	1817	0.92	0.27	0.00	1.00
H2WILLCG	1502	0.90	0.29	0.00	1.00
H3WILLCG	1653	0.94	0.23	0.00	1.00
H4WILLCG	1795	0.94	0.23	0.00	1.00
H1WILLOT	1817	0.06	0.24	0.00	1.00
H2WILLOT	1502	0.08	0.28	0.00	1.00
H3WILLOT	1653	0.05	0.22	0.00	1.00
H4WILLOT	1795	0.04	0.20	0.00	1.00

**Categorical Variable Codes**

Value-----	H1WILLSP	H2WILLSP	H3WILLSP	H4WILLSP
.a:owns no assets	1328	1127	1368	1296
.d:DK	62	7	33	12
.m:Missing	107	31		50
.p:Proxy interview, not asked	502	554	911	588
.r:Refuse	69	13	48	22
.w:no will	11786	10774	11152	10479
0.no	592	545	831	968
1.yes	1150	944	1380	1484

Value-----	H1WILLCG	H2WILLCG	H3WILLCG	H4WILLCG
.a:owns no assets	1328	1127	1368	1296
.d:DK	73	9	36	27
.m:Missing	59	31		50
.p:Proxy interview, not asked	502	554	911	588
.r:Refuse	81	42	87	54
.w:no will	11786	10774	11668	11111
0.no	146	144	91	99
1.yes	1671	1358	1562	1696

Value-----	H1WILLOT	H2WILLOT	H3WILLOT	H4WILLOT
.a:owns no assets	1328	1127	1368	1296

.d:DK	73	9	36	27
.m:Missing	59	31	516	50
.p:Proxy interview, not asked	502	554	911	588
.r:Refuse	81	42	87	54
.w:no will	11786	10774	11152	11111
0.no	1702	1377	1568	1721
1.yes	115	125	85	74

## How Constructed

HwWILLSP indicates whether the respondent's spouse would be a beneficiary of their assets in case of death. HwWILLCG indicates whether the respondent's children and/or grandchildren would be a beneficiary of their assets in case of death. HwWILLOT indicates whether someone other than the respondent's spouse, children and/or grandchildren would be a beneficiary of their assets in case of death. In waves 1 and 2 if the respondent reports having made arrangements to transfer assets in case of death, and starting in wave 3 if the respondent reports having a written will, then the respondent is asked "Excluding your spouse, who would be the beneficiary of your assets in case of death?" HwWILLSP is assigned a value of 0 if the respondent reports having a will and being partnered, separated, divorced, widowed, or never married, and is assigned a value of 1 if the respondent reports having a will and being married. Even though the question explicitly excludes the spouse, due to institutional arrangements in Mexico, a spouse will automatically be a beneficiary of their spouse's will. HwWILLCG is assigned a value of 0 if the respondent reports that another person or no one else would be the beneficiary, and is assigned a value of 1 if the respondent reports that children and/or grandchildren would be a beneficiary of their assets. HwWILLOT is assigned a value of 0 if the respondent reports that the children and/or grandchildren or no one else would be the beneficiary, and is assigned a value of 1 if the respondent reports that another person would be a beneficiary of their assets. HwWILLCG and HwWILLOT are assigned special missing .p if these questions were skipped because the interview was by proxy. HwWILLCG and HwWILLOT are assigned special missing .a if the respondent voluntarily reports that they do not own assets. HwWILLCG and HwWILLOT are assigned special missing .w if the respondent has not made arrangements to transfer assets in case of death in waves 1 and 2, and if the respondent does not have a written will starting in wave 3. Don't know, refused or otherwise missing responses are assigned special missing .d, .r, and .m, respectively. HwWILLCG and HwWILLOT are set to plain missing (.) for respondents who did not participate in the current wave.

## Cross Wave Differences in MHAS

In waves 1 and 2, respondents are asked who, excluding their spouse, would be a beneficiary of their assets if they report having made arrangements to transfer their assets in case of death. Starting in wave 3, respondents are asked this question only if they report having a formal will written by a notary.

## Differences with the RAND HRS/Harmonized HRS

The HRS asks both the respondent and the spouse whether they have a will that is written and witnessed. The MHAS asks at the couple-level whether arrangements have been made to transfer their assets in case of death, which could indicate a formal or informal arrangement. Starting in wave 3 of the MHAS, the respondent is asked whether the arrangements have been written in a formal will by a notary, making the question more comparable to the one asked in the HRS.

In the HRS, if the respondent reports having a will, the respondent is asked separately whether the will has provisions for family other than their spouse, children, grandchildren, and charity. In the MHAS, if the respondent reports having made arrangements in waves 1 and 2, or if the respondent reports having a formal will starting in wave 3, then the respondent is asked who would be the beneficiary of their assets in case of death, excluding their spouse, and are given the following options: 1.children and/or grandchildren, 2.other, 3.child and/or grandchild and other, 4.no one else. Due to institutional arrangements in Mexico, a spouse will automatically be a beneficiary of their spouse's will and so is not explicitly asked in the MHAS. Because of these differences in categories, the variables RwWILLSP, RwWILLFM, RwWILLCH, RwWILLGK, and RwWILLAR are primarily used in the Harmonized HRS, and HwWILLSP, HwWILLCG, and HwWILLOT are used in the Harmonized MHAS.

## MHAS Variables Used

Wave 1:  
ENT\_TIP                    type of individual interview

K88	transfers plans
K89	beneficiary of will
Wave 2:	
K93	transfers plans
K94	beneficiary of will
TIPENT	type of individual interview
Wave 3:	
K93A_12	Arrangements to transfer asset(s) at time of death
K93B_12	Formal arrangements written by a notary
K94_12	At death, excluding spouse, who would receive assets
TIPENTK_12	Type of interview section K 2012
Wave 4:	
K93A_15	Arrangements to transfer asset(s) at time of death
K93B_15	Formal arrangements written by a notary
K94_15	At death, excluding spouse, who would be beneficiary of
TIPENTK_15	Type of interview section K 2015



### Covered by Life Insurance

Wave	Variable	Label	Type
1	R1LIFEIN_M	r1lifein_m: w1 R Covered by life insurance	Categ
2	R2LIFEIN_M	r2lifein_m: w2 R Covered by life insurance	Categ
3	R3LIFEIN_M	r3lifein_m: w3 R Covered by life insurance	Categ
4	R4LIFEIN_M	r4lifein_m: w4 R Covered by life insurance	Categ
1	S1LIFEIN_M	s1lifein_m: w1 S Covered by life insurance	Categ
2	S2LIFEIN_M	s2lifein_m: w2 S Covered by life insurance	Categ
3	S3LIFEIN_M	s3lifein_m: w3 S Covered by life insurance	Categ
4	S4LIFEIN_M	s4lifein_m: w4 S Covered by life insurance	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LIFEIN_M	6579	0.16	0.37	0.00	1.00
R2LIFEIN_M	5749	0.12	0.33	0.00	1.00
R3LIFEIN_M	5680	0.18	0.39	0.00	1.00
R4LIFEIN_M	5561	0.11	0.31	0.00	1.00
S1LIFEIN_M	4976	0.17	0.37	0.00	1.00
S2LIFEIN_M	4380	0.13	0.34	0.00	1.00
S3LIFEIN_M	4204	0.19	0.39	0.00	1.00
S4LIFEIN_M	4031	0.11	0.31	0.00	1.00

### Categorical Variable Codes

Value-----	R1LIFEIN_M	R2LIFEIN_M	R3LIFEIN_M	R4LIFEIN_M
.d:DK	83	30	9	63
.m:Missing	42	42		40
.q:not asked		10		
.r:Refuse	55	3	7	7
.w:not working	8427	7870	10027	9108
0.no	5526	5031	4640	4955
1.yes	1053	718	1040	606

Value-----	S1LIFEIN_M	S2LIFEIN_M	S3LIFEIN_M	S4LIFEIN_M
.d:DK	63	24	6	50
.m:Missing	14	19		10
.q:not asked		8		
.r:Refuse	45	1	3	6
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
.w:not working	5550	5132	6379	5555
0.no	4149	3809	3401	3584
1.yes	827	571	803	447

### How Constructed

RwLIFEIN\_M is an MHAS specific variable that indicates whether the respondent has life insurance.

The number of questions and wording changed between waves depending on the type of interview: follow-up or new subject interviews. In Wave 1, respondents are asked "In your main job which of the following benefits do you receive (did you receive)... Life Insurance?". In Wave 2, follow-up respondents were asked "In your primary job which of the following benefits do you receive (did you receive)... Life Insurance?" and new respondents were asked "In your current primary job, which of the following benefits do you receive?". In Wave 3, both follow-up and new respondents were asked the two questions. After Wave 4, only new respondents were asked "In your primary job throughout your life, which of the following

benefits do you receive (did you receive)... Life Insurance?" and both follow-up and new respondents were asked "In your current primary job, which of the following benefits do you receive?".

RwLIFEIN\_M is set to .w, if the respondent reports he/she is currently not working. RwLIFEIN\_M is assigned special missing values .d or .r, if Don't know or Refused, respectively. The variables are set to plain missing (.) for respondents who did not respond to the current wave. In Wave 2, RwLIFEIN\_M is also set to .q to indicate that the life insurance question was not asked for follow-up respondents that are currently not working.

SwLIFEIN\_M are taken from the Wave 'w' spouse's value for RwLIFEIN\_M. In addition to the special missing codes used in RwLIFEIN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The number of questions and wording changed between waves depending on the type of interview: follow-up or new subject interviews. In Wave 1, respondents are asked "In your main job which of the following benefits do you receive (did you receive)... Life Insurance?". In Wave 2, follow-up respondents were asked "In your primary job which of the following benefits do you receive (did you receive)... Life Insurance?" and new respondents were asked "In your current primary job, which of the following benefits do you receive?". In Wave 3, both follow-up and new respondents were asked the two questions. After Wave 4, only new respondents were asked "In your primary job throughout your life, which of the following benefits do you receive (did you receive)... Life Insurance?" and both follow-up and new respondents were asked "In your current primary job, which of the following benefits do you receive?". Also different to Wave 2, is the dynamics of the Employment Section (determined by the skip patterns) which was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' and 'Principal Occupation' questions. The difference in the skip patterns affects the Life Insurance variable.

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, the MHAS asks respondents whether they have life insurance as a benefit from their main or current job.

## MHAS Variables Used

Wave 1:	
I17G	benefits for life insurance
Wave 2:	
I12_7	received benefits - life insurance
I25_6	benefits from current job - life insurance
Wave 3:	
I12_7_12	Received(s) benefits from primary job - life insurance
I25_7_12	Benefits from current job - life insurance
Wave 4:	
I12_7_15	Did respondent received(receives) benefits from his/her
I25A7_15	Does respondent receive benefits from his/her current p

## **Section Q: Psychosocial**

<b>Depressive Symptoms: CESD</b>
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Wave	Variable	Label	Type
1	R1DEPRES	r1depres:w1 R CESD-Felt depressed	Categ
2	R2DEPRES	r2depres:w2 R CESD-Felt depressed	Categ
3	R3DEPRES	r3depres:w3 R CESD-Felt depressed	Categ
4	R4DEPRES	r4depres:w4 R CESD-Felt depressed	Categ
1	S1DEPRES	s1depres:w1 S CESD-Felt depressed	Categ
2	S2DEPRES	s2depres:w2 S CESD-Felt depressed	Categ
3	S3DEPRES	s3depres:w3 S CESD-Felt depressed	Categ
4	S4DEPRES	s4depres:w4 S CESD-Felt depressed	Categ
1	R1EFFORT	r1effort:w1 R CESD-Everything an effort	Categ
2	R2EFFORT	r2effort:w2 R CESD-Everything an effort	Categ
3	R3EFFORT	r3effort:w3 R CESD-Everything an effort	Categ
4	R4EFFORT	r4effort:w4 R CESD-Everything an effort	Categ
1	S1EFFORT	s1effort:w1 S CESD-Everything an effort	Categ
2	S2EFFORT	s2effort:w2 S CESD-Everything an effort	Categ
3	S3EFFORT	s3effort:w3 S CESD-Everything an effort	Categ
4	S4EFFORT	s4effort:w4 S CESD-Everything an effort	Categ
1	R1SLEEPR	r1sleepr:w1 R CESD-Sleep was restless	Categ
2	R2SLEEPR	r2sleepr:w2 R CESD-Sleep was restless	Categ
3	R3SLEEPR	r3sleepr:w3 R CESD-Sleep was restless	Categ
4	R4SLEEPR	r4sleepr:w4 R CESD-Sleep was restless	Categ
1	S1SLEEPR	s1sleepr:w1 S CESD-Sleep was restless	Categ
2	S2SLEEPR	s2sleepr:w2 S CESD-Sleep was restless	Categ
3	S3SLEEPR	s3sleepr:w3 S CESD-Sleep was restless	Categ
4	S4SLEEPR	s4sleepr:w4 S CESD-Sleep was restless	Categ
1	R1WHAPPY	r1whappy:w1 R CESD-Felt happy	Categ
2	R2WHAPPY	r2whappy:w2 R CESD-Felt happy	Categ
3	R3WHAPPY	r3whappy:w3 R CESD-Felt happy	Categ
4	R4WHAPPY	r4whappy:w4 R CESD-Felt happy	Categ
1	S1WHAPPY	s1whappy:w1 S CESD-Felt happy	Categ
2	S2WHAPPY	s2whappy:w2 S CESD-Felt happy	Categ
3	S3WHAPPY	s3whappy:w3 S CESD-Felt happy	Categ
4	S4WHAPPY	s4whappy:w4 S CESD-Felt happy	Categ
1	R1FLONE	r1flone:w1 R CESD-Felt lonely	Categ
2	R2FLONE	r2flone:w2 R CESD-Felt lonely	Categ
3	R3FLONE	r3flone:w3 R CESD-Felt lonely	Categ
4	R4FLONE	r4flone:w4 R CESD-Felt lonely	Categ
1	S1FLONE	s1flone:w1 S CESD-Felt lonely	Categ
2	S2FLONE	s2flone:w2 S CESD-Felt lonely	Categ
3	S3FLONE	s3flone:w3 S CESD-Felt lonely	Categ
4	S4FLONE	s4flone:w4 S CESD-Felt lonely	Categ
1	R1ENLIFE	r1enlife:w1 R CESD-Enjoyed life	Categ
2	R2ENLIFE	r2enlife:w2 R CESD-Enjoyed life	Categ
3	R3ENLIFE	r3enlife:w3 R CESD-Enjoyed life	Categ
4	R4ENLIFE	r4enlife:w4 R CESD-Enjoyed life	Categ
1	S1ENLIFE	s1enlife:w1 S CESD-Enjoyed life	Categ
2	S2ENLIFE	s2enlife:w2 S CESD-Enjoyed life	Categ

3	S3ENLIFE	s3enlife:w3	S	CESD-Enjoyed life		Categ
4	S4ENLIFE	s4enlife:w4	S	CESD-Enjoyed life		Categ
1	R1FSAD	r1fsad:w1	R	CESD-Felt sad		Categ
2	R2FSAD	r2fsad:w2	R	CESD-Felt sad		Categ
3	R3FSAD	r3fsad:w3	R	CESD-Felt sad		Categ
4	R4FSAD	r4fsad:w4	R	CESD-Felt sad		Categ
1	S1FSAD	s1fsad:w1	S	CESD-Felt sad		Categ
2	S2FSAD	s2fsad:w2	S	CESD-Felt sad		Categ
3	S3FSAD	s3fsad:w3	S	CESD-Felt sad		Categ
4	S4FSAD	s4fsad:w4	S	CESD-Felt sad		Categ
1	R1FTIRED	r1ftired:w1	R	CESD-Felt tired		Categ
2	R2FTIRED	r2ftired:w2	R	CESD-Felt tired		Categ
3	R3FTIRED	r3ftired:w3	R	CESD-Felt tired		Categ
4	R4FTIRED	r4ftired:w4	R	CESD-Felt tired		Categ
1	S1FTIRED	s1ftired:w1	S	CESD-Felt tired		Categ
2	S2FTIRED	s2ftired:w2	S	CESD-Felt tired		Categ
3	S3FTIRED	s3ftired:w3	S	CESD-Felt tired		Categ
4	S4FTIRED	s4ftired:w4	S	CESD-Felt tired		Categ
1	R1ENERG	r1energ:w1	R	CESD-Had a lot of energy		Categ
2	R2ENERG	r2energ:w2	R	CESD-Had a lot of energy		Categ
3	R3ENERG	r3energ:w3	R	CESD-Had a lot of energy		Categ
4	R4ENERG	r4energ:w4	R	CESD-Had a lot of energy		Categ
1	S1ENERG	s1energ:w1	S	CESD-Had a lot of energy		Categ
2	S2ENERG	s2energ:w2	S	CESD-Had a lot of energy		Categ
3	S3ENERG	s3energ:w3	S	CESD-Had a lot of energy		Categ
4	S4ENERG	s4energ:w4	S	CESD-Had a lot of energy		Categ
1	R1CESD_M	r1cesd_m:w1	R	CESD Modified Score		Cont
2	R2CESD_M	r2cesd_m:w2	R	CESD Modified Score		Cont
3	R3CESD_M	r3cesd_m:w3	R	CESD Modified Score		Cont
4	R4CESD_M	r4cesd_m:w4	R	CESD Modified Score		Cont
1	S1CESD_M	s1cesd_m:w1	S	CESD Modified Score		Cont
2	S2CESD_M	s2cesd_m:w2	S	CESD Modified Score		Cont
3	S3CESD_M	s3cesd_m:w3	S	CESD Modified Score		Cont
4	S4CESD_M	s4cesd_m:w4	S	CESD Modified Score		Cont
1	R1CESDM_M	r1cesdm_m:w1	R	CESD-Missings in Modified Score		Cont
2	R2CESDM_M	r2cesdm_m:w2	R	CESD-Missings in Modified Score		Cont
3	R3CESDM_M	r3cesdm_m:w3	R	CESD-Missings in modified Score		Cont
4	R4CESDM_M	r4cesdm_m:w4	R	CESD-Missings in modified Score		Cont
1	S1CESDM_M	s1cesdm_m:w1	S	CESD-Missings in Modified Score		Cont
2	S2CESDM_M	s2cesdm_m:w2	S	CESD-Missings in Modified Score		Cont
3	S3CESDM_M	s3cesdm_m:w3	S	CESD-Missings in modified Score		Cont
4	S4CESDM_M	s4cesdm_m:w4	S	CESD-Missings in modified Score		Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DEPRES	14007	0.38	0.48	0.00	1.00
R2DEPRES	12503	0.39	0.49	0.00	1.00
R3DEPRES	14427	0.35	0.48	0.00	1.00
R4DEPRES	13830	0.33	0.47	0.00	1.00
S1DEPRES	9886	0.34	0.47	0.00	1.00

S2DEPRES	8727	0.36	0.48	0.00	1.00
S3DEPRES	9850	0.32	0.47	0.00	1.00
S4DEPRES	9174	0.30	0.46	0.00	1.00
R1EFFORT	13984	0.36	0.48	0.00	1.00
R2EFFORT	12510	0.37	0.48	0.00	1.00
R3EFFORT	14426	0.36	0.48	0.00	1.00
R4EFFORT	13833	0.36	0.48	0.00	1.00
S1EFFORT	9869	0.34	0.47	0.00	1.00
S2EFFORT	8731	0.35	0.48	0.00	1.00
S3EFFORT	9853	0.34	0.47	0.00	1.00
S4EFFORT	9173	0.34	0.47	0.00	1.00
R1SLEEPR	14034	0.37	0.48	0.00	1.00
R2SLEEPR	12513	0.39	0.49	0.00	1.00
R3SLEEPR	14433	0.42	0.49	0.00	1.00
R4SLEEPR	13843	0.42	0.49	0.00	1.00
S1SLEEPR	9903	0.35	0.48	0.00	1.00
S2SLEEPR	8736	0.37	0.48	0.00	1.00
S3SLEEPR	9855	0.40	0.49	0.00	1.00
S4SLEEPR	9178	0.41	0.49	0.00	1.00
R1WHAPPY	13996	0.75	0.43	0.00	1.00
R2WHAPPY	12477	0.73	0.44	0.00	1.00
R3WHAPPY	14415	0.80	0.40	0.00	1.00
R4WHAPPY	13814	0.81	0.39	0.00	1.00
S1WHAPPY	9876	0.78	0.42	0.00	1.00
S2WHAPPY	8708	0.75	0.43	0.00	1.00
S3WHAPPY	9849	0.82	0.38	0.00	1.00
S4WHAPPY	9161	0.83	0.37	0.00	1.00
R1FLONE	14012	0.33	0.47	0.00	1.00
R2FLONE	12505	0.33	0.47	0.00	1.00
R3FLONE	14437	0.30	0.46	0.00	1.00
R4FLONE	13839	0.30	0.46	0.00	1.00
S1FLONE	9885	0.26	0.44	0.00	1.00
S2FLONE	8728	0.27	0.44	0.00	1.00
S3FLONE	9859	0.24	0.43	0.00	1.00
S4FLONE	9177	0.24	0.43	0.00	1.00
R1ENLIFE	13918	0.71	0.45	0.00	1.00
R2ENLIFE	12464	0.68	0.47	0.00	1.00
R3ENLIFE	14413	0.77	0.42	0.00	1.00
R4ENLIFE	13801	0.79	0.41	0.00	1.00
S1ENLIFE	9818	0.74	0.44	0.00	1.00
S2ENLIFE	8699	0.71	0.46	0.00	1.00
S3ENLIFE	9848	0.79	0.40	0.00	1.00
S4ENLIFE	9155	0.81	0.39	0.00	1.00
R1FSAD	14006	0.40	0.49	0.00	1.00
R2FSAD	12514	0.41	0.49	0.00	1.00
R3FSAD	14433	0.40	0.49	0.00	1.00
R4FSAD	13835	0.40	0.49	0.00	1.00
S1FSAD	9884	0.36	0.48	0.00	1.00
S2FSAD	8737	0.37	0.48	0.00	1.00
S3FSAD	9860	0.36	0.48	0.00	1.00
S4FSAD	9173	0.35	0.48	0.00	1.00

R1FTIRED	14012	0.60	0.49	0.00	1.00
R2FTIRED	12515	0.57	0.49	0.00	1.00
R3FTIRED	14440	0.59	0.49	0.00	1.00
R4FTIRED	13844	0.60	0.49	0.00	1.00
S1FTIRED	9891	0.58	0.49	0.00	1.00
S2FTIRED	8737	0.56	0.50	0.00	1.00
S3FTIRED	9862	0.58	0.49	0.00	1.00
S4FTIRED	9179	0.59	0.49	0.00	1.00
R1ENERG	13938	0.44	0.50	0.00	1.00
R2ENERG	12470	0.40	0.49	0.00	1.00
R3ENERG	14419	0.48	0.50	0.00	1.00
R4ENERG	13829	0.47	0.50	0.00	1.00
S1ENERG	9839	0.45	0.50	0.00	1.00
S2ENERG	8703	0.41	0.49	0.00	1.00
S3ENERG	9854	0.50	0.50	0.00	1.00
S4ENERG	9172	0.49	0.50	0.00	1.00
R1CESD_M	13735	3.50	2.67	0.00	9.00
R2CESD_M	12379	3.64	2.71	0.00	9.00
R3CESD_M	14327	3.37	2.64	0.00	9.00
R4CESD_M	13724	3.32	2.65	0.00	9.00
S1CESD_M	9704	3.25	2.59	0.00	9.00
S2CESD_M	8644	3.40	2.63	0.00	9.00
S3CESD_M	9791	3.13	2.55	0.00	9.00
S4CESD_M	9108	3.10	2.57	0.00	9.00
R1CESDM_M	15186	0.71	2.38	0.00	9.00
R2CESDM_M	13704	0.79	2.53	0.00	9.00
R3CESDM_M	15723	0.74	2.46	0.00	9.00
R4CESDM_M	14779	0.58	2.19	0.00	9.00
S1CESDM_M	10648	0.66	2.29	0.00	9.00
S2CESDM_M	9564	0.79	2.53	0.00	9.00
S3CESDM_M	10592	0.63	2.28	0.00	9.00
S4CESDM_M	9652	0.45	1.94	0.00	9.00

### Categorical Variable Codes

Value-----	R1DEPRES	R2DEPRES	R3DEPRES	R4DEPRES
.d:DK	87	17	13	10
.m:Missing	4			3
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	56	6	8	7
0.No	8723	7596	9416	9302
1.Yes	5284	4907	5011	4528

Value-----	S1DEPRES	S2DEPRES	S3DEPRES	S4DEPRES
.d:DK	63	11	10	4
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	36	5	6	4
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6519	5586	6722	6466
1.Yes	3367	3141	3128	2708

Value-----	R1EFFORT	R2EFFORT	R3EFFORT	R4EFFORT
.d:DK	85	11	15	7
.m:Missing	4			3

.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	81	5	7	7
0.No	8896	7942	9304	8886
1.Yes	5088	4568	5122	4947
Value-----	S1EFFORT	S2EFFORT	S3EFFORT	S4EFFORT
.d:DK	60	8	7	4
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	56	4	6	5
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6499	5695	6525	6043
1.Yes	3370	3036	3328	3130
Value-----	R1SLEEP	R2SLEEP	R3SLEEP	R4SLEEP
.d:DK	60	7	7	3
.m:Missing	4			3
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	56	6	8	1
0.No	8898	7620	8391	8002
1.Yes	5136	4893	6042	5841
Value-----	S1SLEEP	S2SLEEP	S3SLEEP	S4SLEEP
.d:DK	43	5	4	3
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	39	2	7	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6463	5465	5874	5407
1.Yes	3440	3271	3981	3771
Value-----	R1WHAPPY	R2WHAPPY	R3WHAPPY	R4WHAPPY
.d:DK	80	35	19	18
.m:Missing	4			3
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	74	14	14	15
0.No	3437	3382	2923	2606
1.Yes	10559	9095	11492	11208
Value-----	S1WHAPPY	S2WHAPPY	S3WHAPPY	S4WHAPPY
.d:DK	58	26	12	12
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	51	9	5	9
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	2192	2150	1770	1532
1.Yes	7684	6558	8079	7629
Value-----	R1FLONE	R2FLONE	R3FLONE	R4FLONE
.d:DK	68	15	3	4
.m:Missing	4			3
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	70	6	8	4
0.No	9407	8409	10086	9648
1.Yes	4605	4096	4351	4191
Value-----	S1FLONE	S2FLONE	S3FLONE	S4FLONE
.d:DK	50	11	2	2
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	50	4	5	3
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	7299	6368	7491	6938
1.Yes	2586	2360	2368	2239
Value-----	R1ENLIFE	R2ENLIFE	R3ENLIFE	R4ENLIFE
.d:DK	128	44	15	31



.m:Missing	4			3
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	104	18	20	15
0.No	3975	3954	3296	2888
1.Yes	9943	8510	11117	10913
Value-----	S1ENLIFE	S2ENLIFE	S3ENLIFE	S4ENLIFE
.d:DK	95	31	9	16
.m:Missing	3			
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	72	13	9	11
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	2587	2548	2034	1718
1.Yes	7231	6151	7814	7437
Value-----	R1FSAD	R2FSAD	R3FSAD	R4FSAD
.d:DK	75	7	4	9
.m:Missing	4			4
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	69	5	11	2
0.No	8423	7423	8594	8370
1.Yes	5583	5091	5839	5465
Value-----	S1FSAD	S2FSAD	S3FSAD	S4FSAD
.d:DK	53	3	2	6
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	48	3	4	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	6347	5534	6266	5923
1.Yes	3537	3203	3594	3250
Value-----	R1FTIRED	R2FTIRED	R3FTIRED	R4FTIRED
.d:DK	72	7	5	1
.m:Missing	4			4
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	66	4	3	1
0.No	5665	5331	5906	5536
1.Yes	8347	7184	8534	8308
Value-----	S1FTIRED	S2FTIRED	S3FTIRED	S4FTIRED
.d:DK	51	4	3	1
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	43	2	1	1
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	4127	3849	4124	3748
1.Yes	5764	4888	5738	5431
Value-----	R1ENERG	R2ENERG	R3ENERG	R4ENERG
.d:DK	122	42	11	9
.m:Missing	4			4
.p:Proxy interview, not asked	1032	1178	1275	929
.r:Refuse	90	14	18	8
0.No	7770	7512	7479	7298
1.Yes	6168	4958	6940	6531
Value-----	S1ENERG	S2ENERG	S3ENERG	S4ENERG
.d:DK	85	33	6	5
.m:Missing	3			1
.p:Proxy interview, not asked	660	821	726	470
.r:Refuse	61	7	6	4
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
0.No	5406	5175	4972	4718
1.Yes	4433	3528	4882	4454

## How Constructed

RwDEPRES, RweFFORT, RwsLEEPR, RwwHAPPY, RwfLONE, RwenLIFE, RwfSAD, RwfTIRED and RweNERG are yes/no indicators for whether the respondent experienced certain feelings the majority of the time during the week prior to the interview. A code of 0 indicates that the respondent did not experience a particular feeling. A code of 1 indicates that the respondent experienced a particular feeling.

RwDEPRES indicates whether the respondent felt depressed. RweFFORT indicates whether the respondent felt that everything was an effort. RwsLEEPR indicates whether sleep was restless. RwwHAPPY indicates whether the respondent was happy. RwfLONE indicates whether the respondent felt lonely. RwenLIFE indicates whether the respondent enjoyed life. RwfSAD indicates whether the respondent felt sad. RwfTIRED indicates whether the respondent felt tired. And, RweNERG indicates whether the respondent had a lot energy.

When respondents "don't know" or refuse to answer, the variables are assigned special missing values .d or .r, respectively. Variables are set to special missing value .p for proxy interviews and to plain missing (.) for respondents who did not respond to the current wave.

SwDEPRES, SwEFFORT, SwSLEEPR, SwWHAPPY, SwFLONE, SwENLIFE, SwFSAD, SwFTIRED and SwENERG indicate whether the respondent's spouse reported any feelings and are taken directly from the spouse's RwDEPRES, RweFFORT, RwsLEEPR, RwwHAPPY, RwfLONE, RwenLIFE, RwfSAD, RwfTIRED and RweNERG variables, respectively. SwDEPRES, SwEFFORT, SwSLEEPR, SwWHAPPY, SwFLONE, SwENLIFE, SwFSAD, SwFTIRED and SwENERG employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwCESD\_M is an MHAS specific variable that indicates the sum of RwDEPRES, RweFFORT, RwsLEEPR, (1-RwwHAPPY), RwfLONE, (1-RwenLIFE), RwfSAD, RwfTIRED and (1-RweNERG). Thus the higher the score, the more negative the respondent's feelings were during the past week. RwCESDM\_M is the number of CESD questions with missing values, ranging from 0 to 9. RwCESD\_M is calculated for all respondents who answered at least one of the CESD component questions, that is respondents with RwCESDM\_M value of less than 9.

SwCESD\_M and SwCESDM\_M are taken directly from the spouse's values of RwCESD\_M and RwCESDM\_M, respectively. SwCESD\_M and SwCESDM\_M employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The MHAS includes a modified version of the CESD that includes the same RwDEPRES, RweFFORT, RwsLEEPR, RwwHAPPY, RwfLONE, RwenLIFE, and RwfSAD items included in the version used in the HRS. Two more items, RwfTIRED (whether the respondent felt tired) and RweNERG (whether the respondent had a lot energy) were also included instead of RwGOING, used in the HRS. The difference between the two CESD versions impacts the summary indices. Thus, in the Harmonized MHAS two specific indices were created, RwCESD\_M and RwCESDM\_M, with values ranging from 0 to 9.

## MHAS Variables Used

Wave 1:

C52A	depression
C52B	effort
C52D	happiness
C52E	loneliness
C52F	enjoy life
C52G	sadness
C52H	felt tired
C52I	energy

Wave 2:

C49_1	last week's majority emotions - depressed
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C49\_2 last week's majority emotions - everything was an effort  
 C49\_3 last week's majority emotions - disturbed sleep  
 C49\_4 last week's majority emotions - happy  
 C49\_5 last week's majority emotions - alone  
 C49\_6 last week's majority emotions - enjoying life  
 C49\_7 last week's majority emotions - sad  
 C49\_8 last week's majority emotions - tired  
 C49\_9 last week's majority emotions - had a lot of energy

## Wave 3:

C49\_1\_12 Within the past week: Respondent was depressed  
 C49\_2\_12 Within the past week: Respondent experienced difficulty  
 C49\_3\_12 Within the past week: Respondent experienced restless sleep  
 C49\_4\_12 Within the past week: Respondent was happy  
 C49\_5\_12 Within the past week: Respondent was lonely  
 C49\_6\_12 Within the past week: Respondent enjoyed life  
 C49\_7\_12 Within the past week: Respondent was sad  
 C49\_8\_12 Within the past week: Respondent felt tired  
 C49\_9\_12 Within the past week: Respondent was energetic

## Wave 4:

C49\_1\_15 Last week, the majority of the time: Respondent felt depressed  
 C49\_2\_15 Last week, the majority of the time: Respondent felt that life was difficult  
 C49\_3\_15 Last week, the majority of the time: Respondent had restless sleep  
 C49\_4\_15 Last week, the majority of the time: Respondent felt happy  
 C49\_5\_15 Last week, the majority of the time: Respondent felt lonely  
 C49\_6\_15 Last week, the majority of the time: Respondent felt he/she enjoyed life  
 C49\_7\_15 Last week, the majority of the time: Respondent felt sad  
 C49\_8\_15 Last week, the majority of the time: Respondent felt tired  
 C49\_9\_15 Last week, the majority of the time: Respondent felt very energetic

<b>Satisfaction with Life Scale</b>
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Wave	Variable	Label	Type
3	R3LIDEAL3	r3lideal3:w3 R Life is close to ideal	Categ
4	R4LIDEAL3	r4lideal3:w4 R Life is close to ideal	Categ
3	S3LIDEAL3	s3lideal3:w3 S Life is close to ideal	Categ
4	S4LIDEAL3	s4lideal3:w4 S Life is close to ideal	Categ
3	R3LEXCL3	r3lexcl3:w3 R Life conditions are excellent	Categ
4	R4LEXCL3	r4lexcl3:w4 R Life conditions are excellent	Categ
3	S3LEXCL3	s3lexcl3:w3 S Life conditions are excellent	Categ
4	S4LEXCL3	s4lexcl3:w4 S Life conditions are excellent	Categ
3	R3LSTSF3	r3lstsf3:w3 R Satisfied with life	Categ
4	R4LSTSF3	r4lstsf3:w4 R Satisfied with life	Categ
3	S3LSTSF3	s3lstsf3:w3 S Satisfied with life	Categ
4	S4LSTSF3	s4lstsf3:w4 S Satisfied with life	Categ
3	R3LIMPTT3	r3limptt3:w3 R Gotten important things in life	Categ
4	R4LIMPTT3	r4limptt3:w4 R Gotten important things in life	Categ
3	S3LIMPTT3	s3limptt3:w3 S Gotten important things in life	Categ
4	S4LIMPTT3	s4limptt3:w4 S Gotten important things in life	Categ
3	R3LCHNOT3	r3lchnot3:w3 R Change almost nothing if lived again	Categ
4	R4LCHNOT3	r4lchnot3:w4 R Change almost nothing if lived again	Categ
3	S3LCHNOT3	s3lchnot3:w3 S Change almost nothing if lived again	Categ
4	S4LCHNOT3	s4lchnot3:w4 S Change almost nothing if lived again	Categ
3	R3LSATSC3	r3lsatssc3:w3 R Satisfaction with life scale score	Cont
4	R4LSATSC3	r4lsatssc3:w4 R Satisfaction with life scale score	Cont
3	S3LSATSC3	s3lsatssc3:w3 S Satisfaction with life scale score	Cont
4	S4LSATSC3	s4lsatssc3:w4 S Satisfaction with life scale score	Cont
3	R3LSATSC3M	r3lsatssc3m:w3 R Satisfaction with life scale missing count	Cont
4	R4LSATSC3M	r4lsatssc3m:w4 R Satisfaction with life scale missing count	Cont
3	S3LSATSC3M	s3lsatssc3m:w3 S Satisfaction with life scale missing count	Cont
4	S4LSATSC3M	s4lsatssc3m:w4 S Satisfaction with life scale missing count	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3LIDEAL3	14160	2.59	0.70	1.00	3.00
R4LIDEAL3	13634	2.58	0.70	1.00	3.00
S3LIDEAL3	9719	2.62	0.68	1.00	3.00
S4LIDEAL3	9086	2.60	0.68	1.00	3.00
R3LEXCL3	14325	2.48	0.71	1.00	3.00
R4LEXCL3	13754	2.46	0.73	1.00	3.00
S3LEXCL3	9808	2.51	0.70	1.00	3.00
S4LEXCL3	9139	2.48	0.71	1.00	3.00

R3LSTSF3	14370	2.79	0.52	1.00	3.00
R4LSTSF3	13788	2.79	0.53	1.00	3.00
S3LSTSF3	9833	2.81	0.51	1.00	3.00
S4LSTSF3	9155	2.81	0.51	1.00	3.00
R3LIMPTT3	14340	2.74	0.57	1.00	3.00
R4LIMPTT3	13749	2.74	0.58	1.00	3.00
S3LIMPTT3	9817	2.76	0.55	1.00	3.00
S4LIMPTT3	9140	2.76	0.56	1.00	3.00
R3LCHNOT3	14241	2.46	0.79	1.00	3.00
R4LCHNOT3	13669	2.46	0.80	1.00	3.00
S3LCHNOT3	9769	2.48	0.78	1.00	3.00
S4LCHNOT3	9102	2.47	0.80	1.00	3.00
R3LSATSC3	14356	2.61	0.46	1.00	3.00
R4LSATSC3	13774	2.61	0.46	1.00	3.00
S3LSATSC3	9828	2.63	0.45	1.00	3.00
S4LSATSC3	9152	2.62	0.45	1.00	3.00
R3LSATSC3M	22016	1.76	2.37	0.00	5.00
R4LSATSC3M	22016	1.88	2.41	0.00	5.00
S3LSATSC3M	10592	0.38	1.29	0.00	5.00
S4LSATSC3M	9863	0.37	1.29	0.00	5.00

### Categorical Variable Codes

Value-----	R3LIDEAL3	R4LIDEAL3
.d:DK	214	146
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	74	47
1.Disagree	1734	1724
2.Neutral	2280	2316
3.Agree	10146	9594
Value-----	S3LIDEAL3	S4LIDEAL3
.d:DK	108	69
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	39	22
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Disagree	1116	1041
2.Neutral	1480	1516
3.Agree	7123	6529
Value-----	R3LEXCL3	R4LEXCL3
.d:DK	76	50
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	47	23
1.Disagree	1873	1911
2.Neutral	3747	3641
3.Agree	8705	8202
Value-----	S3LEXCL3	S4LEXCL3
.d:DK	33	22
.m:Missing		5
.p:Proxy interview, not asked	726	470

.r:Refuse	25	16
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Disagree	1156	1170
2.Neutral	2521	2436
3.Agree	6131	5533
Value-----	R3LSTSF3	R4LSTSF3
.d:DK	51	27
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	27	12
1.Disagree	789	811
2.Neutral	1414	1205
3.Agree	12167	11772
Value-----	S3LSTSF3	S4LSTSF3
.d:DK	18	14
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	15	8
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Disagree	508	500
2.Neutral	880	761
3.Agree	8445	7894
Value-----	R3LIMPTT3	R4LIMPTT3
.d:DK	69	53
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	39	25
1.Disagree	959	983
2.Neutral	1813	1623
3.Agree	11568	11143
Value-----	S3LIMPTT3	S4LIMPTT3
.d:DK	28	22
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	21	15
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Disagree	607	601
2.Neutral	1172	1037
3.Agree	8038	7502
Value-----	R3LCHNOT3	R4LCHNOT3
.d:DK	151	128
.m:Missing		23
.p:Proxy interview, not asked	1275	929
.r:Refuse	56	30
1.Disagree	2714	2717
2.Neutral	2253	1978
3.Agree	9274	8974
Value-----	S3LCHNOT3	S4LCHNOT3
.d:DK	65	57
.m:Missing		5
.p:Proxy interview, not asked	726	470
.r:Refuse	32	18
.u:Unmar	4782	4847
.v:SP NR	349	280
1.Disagree	1778	1777
2.Neutral	1514	1253
3.Agree	6477	6072

## How Constructed

RwLIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3 indicate how much the respondent agrees with specific statements about their satisfaction with life. RwlIDEAL3 indicates how much the respondent agrees with the statement, in most things my life is close to my ideal. RwLEXCL3 indicates how much the respondent agrees with the statement, the conditions of my life are excellent. RwlSTSF3 indicates how much the respondent agrees with the statement, I am satisfied with my life. RwlLIMPTT3 indicates how much the respondent agrees with the statement, so far I have got the important things that are important to me in life. RwlCHNOT3 indicates how much the respondent agrees with the statement, if I were to be born again I would change almost nothing in my life. RwlIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3 are coded as follows: 1.disagree, 2.neutral, 3.agree. Please note that the answer scale in the original questions goes from 1.agree to 3.disagree, which have been reverse-coded for these variables to 1.disagree to 3.agree. These questions are not asked to interviews completed by a proxy on behalf of the respondent and special missing .p is assigned in these cases. Don't know, refused, or other missing values are assigned special missing codes .d, .r, .m, respectively. RwlIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3 are set to plain missing (.) for respondents who did not respond to the current wave.

SwLIDEAL3, SwLEXCL3, SwLSTSF3, SwLIMPTT3, and SwLCHNOT3 indicate how much the respondent's spouse agrees with specific statements about their satisfaction with life and are taken directly from the spouse's responses to RwlIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3, respectively. In addition to the special missing codes used in RwlIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3, SwLIDEAL3, SwLEXCL3, SwLSTSF3, SwLIMPTT3, and SwLCHNOT3 employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwLSATSC3 is the mean of RwlIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3 using a 3-item scale ranging from 1.disagree to 3.agree. Thus the higher the score, the more the respondent is satisfied with their life. RwLSATSC3 is not computed for respondents with 3 or more missing values for RwlIDEAL3, RwLEXCL3, RwlSTSF3, RwlLIMPTT3, and RwlCHNOT3. Respondents whose survey was completed by a proxy on their behalf who are not asked these questions are assigned special missing .p. Don't know, refused, or other missing responses to the components of RwLSATSC3 are assigned special missing .d, .r, .m, respectively. RwLSATSCM3 indicates how many individual measures used to derive RwLSATSC3 are missing. RwLSATSC3 and RwLSATSCM3 are assigned plain missing (.) if the respondent did not participate in the current wave.

SwLSATSC3 is the respondent's spouse's mean satisfaction with life using a 3-item scale, and its values are taken from RwLSATSC3. SwLSATSCM3 indicates the number of missing components for the respondent's spouse's mean satisfaction with life, and its values are taken from RwLSATSCM3. In addition to the special missing codes used in RwLSATSC3 and RwLSATSCM3, SwLSATSC3 and SwLSATSCM3 employ two other missing codes, .u and .v. Special missing value .u is used when the respondent does not report being coupled in the current wave. Special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Satisfaction with life scale questions were added to the MHAS starting in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, satisfaction with life scale questions are asked using finer response scales than the MHAS. In Wave 7, HRS uses a 6-point response scale as follows: 1.strongly agree, 2.agree, 3.slightly agree, 4.neither agree nor disagree, 5.slight disagree, 6.disagree, 7.strongly disagree. In Wave 8, HRS uses a 6-point response scale as follows: 1.strongly disagree, 2.somewhat disagree, 3.slightly disagree, 4.slightly agree, 5.somewhat agree, 6.strongly agree. Starting in Wave 9, the HRS uses a 7-point response scale as follows: 1.strongly disagree, 2.somewhat disagree, 3.slightly disagree, 4.neither agree nor disagree, 5.slightly agree, 6.somewhat agree, 7.strongly agree. Unlike the HRS, the MHAS uses a 3-point response scale of 1.agree, 2.neutral, 3.disagree. To provide variables which are comparable between the MHAS and the HRS at Wave 7 and the HRS at Wave 9 and later, the response scale has been reverse-coded in these Harmonized MHAS variables and in the Harmonized HRS a 3-point scale version of the satisfaction with life scale score is provided, which is also reverse-coded for HRS Wave 7.

## MHAS Variables Used

## Wave 3:

D33A\_12 Respondent believes his/her life is close to ideal  
D33B\_12 Respondent believes his/her life conditions are excelle  
D33C\_12 Respondent is satisfied with his/her life  
D33D\_12 Respondent has received the most important things in hi  
D33E\_12 If born again:respondent would not change anything abou

## Wave 4:

D33A\_15 Respondent believes his/her life is close to ideal  
D33B\_15 Respondent believes his/her life conditions are excelle  
D33C\_15 Respondent is satisfied with his/her life  
D33D\_15 Respondent has gained the things that are important to  
D33E\_15 If born again, respondent would change almost nothing a



<b>Single Life Satisfaction Question</b>
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Wave	Variable	Label	Type
3	R3SATLIFEZ	r3satlifez:w3 R Satisfied with life z-score	Cont
4	R4SATLIFEZ	r4satlifez:w4 R Satisfied with life z-score	Cont
3	S3SATLIFEZ	s3satlifez:w3 S Satisfied with life z-score	Cont
4	S4SATLIFEZ	s4satlifez:w4 S Satisfied with life z-score	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SATLIFEZ	14448	-0.00	1.00	-2.69	9.12
R4SATLIFEZ	13827	0.00	1.00	-2.95	10.06
S3SATLIFEZ	9866	0.00	0.90	-2.69	9.12
S4SATLIFEZ	9177	0.02	0.96	-2.95	10.06

### How Constructed

RwSATLIFEZ is a z-scored version of the respondent's level agreement to the statement, I am satisfied with my life. Satisfaction with life is asked using a 3-point response scale of 1.agree, 2.neutral, 3.disagree. RwSATLIFEZ is derived by first reverse-coding the responses to satisfaction with life question to 1.disagree, 2.neutral, 3.agree and then z-scores those responses. This question is not asked to interviews completed by a proxy on behalf of the respondent and special missing .p is assigned in these cases. Don't know, refused, or other missing values are assigned special missing codes .d, .r, .m, respectively. RwSATLIFEZ is set to plain missing (.) for respondents who did not respond to the current wave.

SwSATLIFEZ is a z-scored version of respondent's spouse's level of agreement with the statement, I am satisfied with my life and is taken directly from the spouse's responses to RwsATLIFEZ. In addition to the special missing codes used in RwsATLIFEZ, SwSATLIFEZ employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

A question of satisfaction with life was added to the MHAS starting in Wave 3.

### Differences with the RAND HRS/Harmonized HRS

In the HRS, satisfaction with life is asked using a 5-point response scale of 1.completely satisfied, 2.very satisfied, 3.somewhat satisfied, 4.not very satisfied, 5.not at all satisfied. Unlike the HRS, the MHAS uses a 3-point response scale of 1.agree, 2.neutral, 3.disagree. To provide variables which are comparable between the HRS and the MHAS, the response scale of RwsATLIFEZ has been reverse-coded and z-scored in the Harmonized MHAS and in the Harmonized HRS a reverse-coded and z-scored version of HRS respondent's answer to satisfaction with life is provided.

### MHAS Variables Used

Wave 3:	
D33C_12	Respondent is satisfied with his/her life
Wave 4:	
D33C_15	Respondent is satisfied with his/her life

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