2019 Health Survey
Final, Version 1.0
December 2023

Data Description and Usage

Conditions of Use
By registering for access to HRS Public Release data, the User agrees to all of the following:

- Make no attempts to identify study participants.

- Not to transfer HRS Public Release data to any third party other than staff or students for whom you are directly responsible except as indicated below.

- Not to allow others to use your username and password to access this site.

- To certify the destruction of any downloaded Public Release data file as well as any data files derived from the downloaded file when requested to do so by the Health and Retirement Study.

- To include the following citation in any research reports, papers, or publications based on Public Release data:

In text:
"The HRS (Health and Retirement Study) is sponsored by the National Institute on Aging (grant number NIA U01AG009740) and is conducted by the University of Michigan."

In references:
"Health and Retirement Study, 2019 Health Survey dataset. Produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740). Ann Arbor, MI, (year)."

- To include the following citation in any research reports, papers, or publications based on any Public Release data file tagged as "Early" or "Preliminary":

"This analysis uses Early Release data from the Health and Retirement Study, 2019 Health Survey, sponsored by the National Institute on Aging (grant number NIA U01AG009740) and conducted by the University of Michigan. These data have not been cleaned and may contain errors that will be corrected in the Final Release version of the dataset."

- Please note that although it is necessary to include the above citations to the HRS in any publications, it is not necessary to associate your publications with the HRS grant in PubMed.

- Provide information regarding any research product (dissertation, thesis, journal article, book, book chapter, report, etc.) based on data obtained from the Health and Retirement Study by sending an electronic copy to hrspublications@umich.edu.

- Report immediately to the Health and Retirement Study at hrsquestions@umich.edu any disclosure of study participant identity as well as any discovery of flaws or errors in the data or documentation files.

- Notify the Health and Retirement Study through use of the update function provided at this site or by electronic mail directed to hrsquestions@umich.edu of changes in your electronic mail address, postal address, telephone number, organizational affiliation or organizational status.

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Table of Contents

Data Description and Usage

1. Introduction

The Health and Retirement Study (HRS) is a longitudinal panel study that surveys a representative sample of approximately 20,000 people in America, supported by the National Institute on Aging and the Social Security Administration. The Institute for Social Research (ISR) Survey Research Center (SRC) at the University of Michigan conducts the study.

The HRS 2019 Health Survey was administered to a sub-sample of respondents to gather information about their health care access, health conditions, medications, and food consumption. It includes both novel content and questions that have been asked in previous mail surveys.

By receiving the dataset, you agree to use it for research and statistical purposes only and will make no effort to identify respondents. In addition, you agree to send us a copy of publications you produce based on the data.

1A. Health Survey Sample

In November 2019, questionnaires were mailed to a subsample of HRS respondents (n=6,159) who (1) were not in the random half-sample assigned to receive the Consumption and Activities Mail Survey (CAMS); (2) were born before 1960; and (3) had already completed a Life History Mail Survey (LHMS). The survey was available in English and Spanish. The field period was November 2019 through May 2020.

The data file for the 2019 Health Mail Survey contains data for 5,097 respondents. The response rate is 83%.

1B. Updates to the data

The changes we made in this release as compared with the 2019 Health Mail Survey Early, Version 1.0 are described below.

1) Added a new -8 code (MULTIPLE SELECTIONS (IN ERROR)) in the data for some cases that were previously designated as blank/missing.

2) Added eight new cases to the data.

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3) Made corrections based on our additional data cleaning efforts on previously coded responses.

1C. 2019 Health Survey Sections

The questionnaire has the following sections:

A. Health Care Access: Questions asked respondents to describe their current health and recent health care experiences. Many of the questions in this section were also asked in the HRS 2011 Health Care Mail Survey and the HRS 2013 Health Care and Nutrition Study.

B. Health Conditions: The goal of this section was to a) ask respondents about whether a health professional ever told them about the presence of general problems with their immune system, b) determine if participants had been told that they had any specific medical conditions that are known to negatively affect the immune system, and c) ascertain if they had received any medical procedures or treatments, such as splenectomy or organ transplant, that can negatively affect the immune system.

Some items in Section B were adapted from existing surveys. Items B1 through B6, concerning whether a doctor had discussed immune problems with the participant, were derived from the 2013 US National Health Interview Survey (NHIS)[1]. Item B10, which asks about the frequency of 25 different symptoms and health conditions, builds on a different measure in the literature, the Immune Function Questionnaire (IFQ)[2]. Other items in Section B, such as health conditions and procedure lists (Items B7-B8) were created by HRS investigators based on prior studies and clinical experience. Note that item B7, which asks respondents about specific health conditions, contains both 26 conditions deemed by HRS investigators to be immune-related based on prior studies and clinical experience (items B7.a through B7.z), as well as an additional 9 conditions affecting older Americans that are not

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[1] The following publication provides more information on the NHIS measures: Harpaz, R., Dahl, R.M. and Dooling, K.L., 2016. Prevalence of immunosuppression among US adults, 2013. *JAMA*, *316*(23), pp.2547-2548.
[2] The IFQ, a nineteen-item inventory, is described in Reed, P., Vile, R., Osborne, L.A., Romano, M. and Truzoli, R., 2015. Problematic internet usage and immune function. *PloS one*, *10*(8), p.e0134538.

necessarily immune-related but have not been asked about in other HRS surveys (items B7.aa through B7.ai).

C and D: Medications: Respondents were asked to provide information about different medications taken, specifically all medications prescribed, including those only taken occasionally. If the respondent was taking more than fifteen medications, they were asked to provide information for the fifteen medications they considered most important. Section D captured information for any other medications. These sections captured information similar to what was collected in the HRS Prescription Drug Studies in 2005 and 2007, as well as the HRS 2009 Health and Well-Being Study.

E. Special Foods: Respondent were asked about food supplements taken or foods consumed for general health improvement.

F. Comments: Respondents indicated who answered the questions; amount of time to complete the questionnaire and had opportunity to provide general comments.

1D. File Structure

The 2019 Health Survey (Final, Version 1.0) data are at the respondent level. Respondent-level files contain questions that were asked of all respondents about themselves or their household (or were answered by a proxy for the respondent if the respondent was not able to fill out the questionnaire). The data file contains one record for each respondent or proxy who returned a questionnaire. Question F1 indicates who answered the survey questions. This allows analysts can determine if the respondent to whom the questionnaire was sent completed the questionnaire, or if the spouse or partner of the respondent, or some other proxy completed the questionnaire.

The medication data (Sections C & D of the questionnaire) contain detailed medication information for each respondent who completed these sections of the questionnaire. The medication data is available as a separate HRS restricted data product: 2019 Health Survey: Medicines and Other Medications.

The data file is named HM19_R, loosely translated as: Health Survey 2019, with the "_R" designating the file is at the respondent level.

The data file contains 5,097 cases and 218 variables.

The primary Identification variables (IDs) are:

HHID   HOUSEHOLD IDENTIFIER
PN   PERSON NUMBER

Records in the data files are sorted in order by HHID and PN. The variable PN refers to the respondent to whom the questionnaire was mailed. Identification variables in the HRS 2019 Health Survey Final Release are stored in character format.

1E. Data Quality

Recoded or Constructed variables
Most of the variables in the 2019 Health Survey data mirror the questions in the Health Survey questionnaire. However, questions that allowed for multiple mentions have been recoded. Respondents were instructed to check "all that apply" for A7, A31, A33, A34, A36, A37, A40, A41 and E1. These questions have been recoded into one variable for each mention (for example A36M1, A36M2, etc).

Consistency
The data will have some inconsistency. Respondents did not always follow the correct skip patterns and in most instances their "incorrect" answers were preserved. Likewise, there were times when respondents interpreted questions involving percentages in different ways.

Extreme values and missing data
While cleaning the data, when extreme or unlikely values were encountered, the hard copies of the questionnaires were checked to determine if errors were introduced during the data entry process. If the respondent reported the extreme value, the extreme value appears unchanged in the data.

1F. Weights
The variable HSM19WGTR is the sample weight included in the data file.

In weighting the 2019 Health Survey, the 2018 HRS core survey respondents born 1959 and earlier served as the reference population. The 2019 Health Survey was somewhat

unusual for an off-year mailer in that the sample was not restricted to 2018 HRS core survey respondents. 292 mailers were returned by cohort-eligible respondents who did not complete the 2018 core survey, and thus, did not have a 2018 core weight that could be used as a starting point for a selection model. This problem was addressed by first imputing a pseudo 2018 core weight for these 292 Health Survey respondents. This was accomplished using SAS PROC MI to specify a regression model with predictive mean matching in which the imputed weight was selected randomly from the five nearest neighbors. Variables in the model were the respondent's base household weight, along with the respondent-level weights for 2014, 2016, and 2018.

The logistic regression model used for weight adjustment uses a large number of variables. Wave-specific measures are from 2018 core. In addition to imputing for item nonresponse, it was necessary to impute the 2018 variables for the 292 Health Survey respondents not participating in the 2018 HRS core interview. Fortunately, 238 of these respondents completed the 2016 HRS core interview. For this reason, both 2016 and 2018 HRS core variables were included in the imputation model.

The variables used include:
1) **Demographics:** birth cohort, gender, race, ethnicity, schooling
2) **Wave-specific measures:** proxy status, coupleness, employment, near vision, preventative care (flu shot), functional impairment (Nagis, ADLs, IADLs), health conditions (diabetes, heart disease, arthritis), cognitive status, trouble with pain, self-reported health, health and dental insurance status, cost-related non-adherence, cost-related deferred care, usual place for care, and satisfaction with healthcare

After imputing the necessary weights and variables, a weighted logistic regression model predicting Health Survey participation was estimated. The model included 12,883 HRS participants, 4,788 of whom completed the Health Survey.

2019 Health Survey respondents	4,788
Health Survey cohort-eligible 2018 core respondents	12,591
Additional Health Survey respondents not completing 2018 core IW	292
Total cases for logistic regression model	12,883

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The weights were adjusted for Health Survey respondents by multiplying their 2018 core weight by the inverse of the estimated probability of Health Survey participation from this model. This step adjusts for nonresponse among HRS respondents selected for the Health Survey, as well as adjusting the Health Survey respondent sample to match 2018 core on a broad set of measures using a multivariable model.

Finally, the Health Survey weights were trimmed at the 2nd and 98th percentiles to reduce variance, and then poststratified by race/ethnicity, gender, and cohort to match the weighted totals found in the 2018 HRS core.

2. Distribution Files

The following extensions are used for the different types of distribution files:

.da for data files,
.sas for SAS program statements,
.sas7bdat for "ready-to-use" SAS files,
.sps for SPSS program statements,
.sav for "ready-to-use" SPSS files,
.do for Stata DO statements,
.dct for Stata dictionary statements,
.dta for "ready-to-use" Stata files, and
.txt for codebook files.

For example,
HM19_R.da contains ASCII data from Sections A, B, E and F.
HM19_R.sas contains corresponding SAS program statements,
HM19_R.sas7bdat contains "ready-to-use" data in SAS format,
HM19_R.sps contains corresponding SPSS program statements,
HM19_R.sav contains "ready-to-use" data in SPSS format,
HM19_R.do contains corresponding Stata DO statements,
HM19_R.dct contains corresponding Stata dictionary statements,
HM19_R.dta contains "ready-to-use" data in Stata format, and
HM19_R.txt contains the ASCII codebook.

The 2019 HRS Heath Mailer (Final, Version 1.0) data are provided in ASCII format, with fixed-length records, in addition to "ready-to-use" formats. Use the associated SAS, SPSS or Stata program statements to read the data into the analysis package of your choice. In addition, you are encouraged to download the codebook file (HM19_R.txt) and the data description (this document).

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3. Program Statements

The data are provided as SAS (.sas7bdat), SPSS (.sav) and Stata (.dta) "ready-to-use" files and in ASCII format. Each ASCII data file comes with associated SPSS, SAS, or STATA program statements to read the data. Files containing SPSS statements are named with a .sps extension, those with SAS statements with a .sas extension, and those with STATA statements with .do and .dct extensions.

3A. Using the Files with SAS

To create a SAS system file for a particular dataset, two file types must be present for that dataset -- .SAS program statement files and .DA data files.

To create a SAS system file, load the *.SAS file into the SAS Program Editor.

If the *.SAS file is located in "c:\hm2019\sas" and the data file is located in "c:\hm2019\data", you can run the file as is. A SAS system file (*.SAS7BDAT) will be saved to directory "c:\hm2019\sas".

If the files are not located in the specified directories, you will need to edit the *.SAS file to reflect the proper path names prior to running the file.

3B. Using the Files with SPSS

To create an SPSS system file for a particular dataset, two file types must be present for that dataset -- .SPS program statement files and .DA data files.

To create an SPSS system file, open the *.SPS file in SPSS as an SPSS Syntax File.

If the *.SPS file is located in "c:\hm2019\spss" and the data file is located in "c:\hm2019\DATA", you can run the file as is. An SPSS system file (*.SAV) will be saved to directory "c:\hm2019\spss".

If the files are not located in the specified directories, you will need to edit the *.SPS file to reflect the proper path names prior to running the file.

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3C. Using the Files with Stata

To use Stata with a particular dataset, the following three file types must be present for that dataset -- .DCT files, .DO files, and .DA data files.

Files with the suffix .DA contain the raw data for Stata to read. Files with the suffix .DCT are Stata dictionaries used by Stata to describe the data. Files with the suffix .DO are short Stata programs ("do files") which you may use to read in the data. Load the .DO file into Stata and then submit it.

If the *.DO and *.DCT files are located in "c:\hm2019\stata" and the data file is located in "c:\hm2019\data", you can run the .DO file as is.

If the files are not located in these directories, you must edit the *.DO and *.DCT files to reflect the proper path names before you run the files.

Note that the variable names provided in the .DCT files are uppercase. If you prefer lower case variable names, you may wish to convert the .DCT files to lower case prior to use. You may do this by reading the .DCT file into a text or word processing program and changing the case. For instance in Microsoft Word, Edit, Select All, Format, Change Case, lowercase.

4. Linking Respondents across Time

Respondent records in the 2019 Health Survey (Final, version 1.0) can be linked to respondent records from HRS 2018 and prior waves by HHID and PN.

5. Registration and Downloading the Data

5A. Registration

HRS data are available for free to researchers and analysts at the HRS Web site. In order to obtain public release data, you must first register at our Web site. Once you have completed the registration process, your username and password will be sent to you via e-mail. Your username and password are required to download any data files.

By registering all users, we are able to document for our sponsors the size and diversity of our user community allowing us to continue to collect these important data. Registered users receive user support, information related

to errors in the data, future releases, workshops, and publication lists. The information you provide will not be used for any commercial use, and will not be redistributed to third parties.

5B. Conditions of Use

By registering, you agree to the Conditions of Use governing access to Health and Retirement public release data.

5C. Publications Based on Data

As part of the data registration process, you agree to include specified citations and to inform HRS of any papers, publications, or presentations based on HRS data. Please send a copy of any publications you produce based on HRS data, with a bibliographical reference, if appropriate, to the address below.

Health and Retirement Study
Attn: Papers and Publications
The Institute for Social Research
P.O. Box 1248
Ann Arbor, MI (USA) 48106-1248

Alternately, you may contact us by e-mail at hrsquestions@umich.edu with "Attn: Papers and Publications" in the subject line.

6. If You Need to Know More
This document is intended to serve as a brief overview and to provide guidelines for using the 2019 Health Survey (Final, version 1.0) data. If you have questions or concerns that are not adequately covered here or on our Web site, please contact us. We will do our best to provide answers.

6A. HRS Internet Site

Health and Retirement Study public release data and additional information about the study are available on the Internet. To access the data and other relevant information, point your Web browser to the HRS Web site.

http://hrsonline.isr.umich.edu/

6B. Contact Information
If you need to contact us, you may do so by one of the methods listed below.

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Internet:  Help Desk at our Web site
E-mail:  hrsquestions@umich.edu

Postal service:
     Health and Retirement Study
     The Institute for Social Research
     The University of Michigan
     P.O. Box 1248
     Ann Arbor, MI 48106-1248

FAX: (734) 647-1186
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