HEALTH AND RETIREMENT STUDY
2018 Core
Final, Version 1.0
September 2021

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, 2018 HRS Final Core public use 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, 2018 HRS Early Core, 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 Public 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.
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>III</td>
</tr>
<tr>
<td>DATA DESCRIPTION AND USAGE</td>
<td>1</td>
</tr>
<tr>
<td>1. OVERVIEW</td>
<td>1</td>
</tr>
<tr>
<td>1A. The Sample Interviewed in 2018</td>
<td>1</td>
</tr>
<tr>
<td>1B. 2018 Questionnaire Sections</td>
<td>2</td>
</tr>
<tr>
<td>1C. Levels of Files</td>
<td>3</td>
</tr>
<tr>
<td>1C1. Household Level Files</td>
<td>3</td>
</tr>
<tr>
<td>1C2. Respondent Level Files</td>
<td>3</td>
</tr>
<tr>
<td>1C3. Sibling Level File</td>
<td>3</td>
</tr>
<tr>
<td>1C4. Household Member and Child Level Files</td>
<td>3</td>
</tr>
<tr>
<td>1C5. Helper Level File</td>
<td>3</td>
</tr>
<tr>
<td>1C6. Transfer-to-Child-Level File</td>
<td>3</td>
</tr>
<tr>
<td>1C7. Transfer-from-Child-Level File</td>
<td>4</td>
</tr>
<tr>
<td>1C8. Pension Level Files</td>
<td>4</td>
</tr>
<tr>
<td>1C9. Jobs level files</td>
<td>4</td>
</tr>
<tr>
<td>2. File Naming Conventions</td>
<td>4</td>
</tr>
<tr>
<td>3. Data Files</td>
<td>5</td>
</tr>
<tr>
<td>3A. Construction of the Interviewer Observation Files (IO_R and IO_H)</td>
<td>6</td>
</tr>
<tr>
<td>4. Identification Variables</td>
<td>6</td>
</tr>
<tr>
<td>4A. Primary Identification Variables</td>
<td>6</td>
</tr>
<tr>
<td>4A1. HHID - Household Identification Number</td>
<td>6</td>
</tr>
<tr>
<td>4A2. QSUBHH - 2018 Sub-household Identifier</td>
<td>6</td>
</tr>
<tr>
<td>4A3. PN - Person Number</td>
<td>7</td>
</tr>
<tr>
<td>4A4. OPN - Other Person Number</td>
<td>7</td>
</tr>
<tr>
<td>4B. Primary Identification Variables for Datasets at Each of the Nine Levels</td>
<td>7</td>
</tr>
<tr>
<td>4C. Secondary Identification Variables</td>
<td>8</td>
</tr>
<tr>
<td>4D. Datasets Including QSUBHH and OPN as Primary Identifiers</td>
<td>8</td>
</tr>
<tr>
<td>5. Distribution Files and Directory Structure</td>
<td>9</td>
</tr>
<tr>
<td>5A. Distribution Files</td>
<td>9</td>
</tr>
<tr>
<td>5B. Directory Structure</td>
<td>9</td>
</tr>
<tr>
<td>6. Program Statements</td>
<td>9</td>
</tr>
<tr>
<td>6A. Using the Files with SAS</td>
<td>9</td>
</tr>
<tr>
<td>6B. Using the Files with SPSS</td>
<td>10</td>
</tr>
<tr>
<td>6C. Using the Files with Stata</td>
<td>10</td>
</tr>
<tr>
<td>7. Loading HRS Data Products in a Non-Windows Environment</td>
<td>10</td>
</tr>
<tr>
<td>7A. Working in an OS X Environment</td>
<td>10</td>
</tr>
<tr>
<td>7A1. OS X: SPSS</td>
<td>11</td>
</tr>
<tr>
<td>7A2. OS X: Stata</td>
<td>11</td>
</tr>
<tr>
<td>7B. Working in a Linux Environment</td>
<td>12</td>
</tr>
<tr>
<td>7B1. Linux: Stata</td>
<td>12</td>
</tr>
<tr>
<td>7B2. Linux: SAS</td>
<td>12</td>
</tr>
<tr>
<td>8. Documentation</td>
<td>13</td>
</tr>
<tr>
<td>8A. Codebook</td>
<td>13</td>
</tr>
<tr>
<td>8A1. Variable Names</td>
<td>13</td>
</tr>
<tr>
<td>8A2. Other Types of Documentation</td>
<td>15</td>
</tr>
</tbody>
</table>
8B. MASTER CODES ........................................................................ 15
9. ADDITIONAL NOTES ..................................................................... 15
  9A. HOUSEHOLDS WITH NO FAMILY OR FINANCIAL RESPONDENTS ........................................................................ 15
  9B. UNFOLDING BRACKET VARIABLES AND IMPUTATIONS ...................................................................................... 16
  9C. 2018 UNFOLDINGS ISSUES ......................................................................................................................... 18
  9D. MODULES FOR THE 2018 DATA COLLECTION ................................................................................................. 18
  9E. EXPLANATION OF THE DIFFERENCE BETWEEN TRACKER AND CORE DATA RELEASES ...................................... 18
  9F. ENHANCED FACE-TO-FACE SAMPLE DESIGN AND CONTENT ........................................................................... 19
  9G. WEB MODE .................................................................................. 20
  9H. WHOLE BLOOD DRAWS ........................................................................ 22
  9I. SECTION G: FUNCTIONAL LIMITATIONS AND HELPERS .............................................................................. 22
  9J. ERRATA ......................................................................................... 22
  9K. SUMMARY OF DATA MODEL (DM) CHANGES DURING 2018 PRODUCTION .............................................................. 23
  9L. NEW QUESTIONS IN HRS 2018 ................................................................................................................. 28
10. OBTAINING THE DATA ..................................................................... 29
  10A. REGISTRATION AND DOWNLOADING THE DATA .......................................................................................... 29
  10B. CONDITIONS OF USE .......................................................................................................................... 29
  10C. PUBLICATIONS BASED ON DATA ........................................................................................................ 29
11. IF YOU NEED TO KNOW MORE ......................................................... 29
  11A. HRS INTERNET SITE ..................................................................... 29
  11B. CONTACT INFORMATION: .................................................................................................................. 29
APPENDIX ................................................................................... I
A. EXAMPLES OF SUB-HOUSEHOLD AND RESPONDENT PERSON NUMBER AND OTHER PERSON NUMBER ASSIGNMENTS ........................................................................ I
  A1. MARRIED COUPLE STAYS MARRIED ........................................................................................................ I
  A2. COUPLE DIVORCES ............................................................................................................................. II
  A3. ONE OR BOTH RESPONDENTS DIE ..................................................................................................... II
  A4. SINGLE RESPONDENT MARRIES ........................................................................................................ II
  A5. COUPLE DIVORCES, ONE RESPONDENT REMARRIES AND DIVORCES ..................................................... III
  A6. COUPLE DIVORCES AND MARRIES AGAIN ........................................................................................ IV
  A7. MARRIED COUPLE WITH CHILDREN AND SIBLINGS ........................................................................ IV
  A8. COUPLE WITH CHILDREN AND SIBLINGS DIVORCES ........................................................................ V
  A9. COUPLE DIVORCES, ONE RESPONDENT REMARRIES, BOTH SPLIT-OFF HOUSEHOLDS HAVE NEW MEMBERS . VI
B. MASTER CODES ................................................................................... VI
  B1. HEALTH CONDITIONS - CATEGORICAL ................................................................................................ VI
  B2. OCCUPATION CODES .......................................................................................................................... X
  B3. INDUSTRY CODES .......................................................................................................................... XXI
C. STATE AND COUNTRY CODES ................................................................ XXVI
  C1. STATES .......................................................................................................................... XXVI
  C2. OTHER U.S. .......................................................................................................................... XXVII
  C3. OTHER COUNTRIES .................................................................................................................. XXVII
Data Description and Usage

1. Overview

The 2018 HRS Core (Final, Version 1.0) data release consists of data obtained as part of the Health and Retirement Study (HRS), a national longitudinal study of the economic, health, marital, and family status, as well as public and private support systems, of older Americans. The National Institute on Aging provided funding (NIA U01 AG009740), with supplemental support from the Social Security Administration. The Institute for Social Research (ISR) Survey Research Center (SRC) at the University of Michigan conducted the survey.

By receiving the data, which have been freely provided, you agree to use them for research and statistical purposes only and to make no effort to identify the respondents. In addition, you agree to send us a copy of any publications you produce based on the data. See Obtaining the Data for additional details.

1A. The Sample Interviewed in 2018

The data collection period for the 2018 interview was April 2018 through June 2019. The HRS sample is comprised of seven sub-samples (HRS, AHEAD, CODA, WAR BABY, EARLY BABY BOOMER, MIDDLE BABY BOOMER and LATE BABY BOOMER).

The first sub-sample, the HRS sub-sample, consists of people who were born 1931 through 1941 and were household residents of the conterminous U.S. in the spring 1992, and their spouses or partners at the time of the initial interview in 1992 or at the time of any subsequent interview. The HRS sub-sample was interviewed in 1992 and every two years thereafter.

The AHEAD sub-sample consists of people who were born in 1923 or earlier, were household residents of the conterminous U.S. in the spring 1992, and were still household residents at the time of their first interview in 1993 or 1994, and their spouses or partners at the time of the initial interview or at the time of any subsequent interview. The AHEAD sub-sample was interviewed in 1993-94, 1995-96, 1998 and every two years thereafter.

The Children of the Depression (CODA) sub-sample consists of people who were born in 1924 through 1930, were household residents of the conterminous U.S. when first interviewed in 1998, and who, at that time, did not have a spouse or partner who was born before 1924 or between 1931 and 1947, and their spouses or partners at the time of the initial interview or at the time of any subsequent interview. The Children of the Depression sub-sample was interviewed in 1998 and every two years thereafter.

The War Baby (WB) sub-sample consists of people who were born in 1942 through 1947, were household residents of the conterminous U.S. in the spring 1992, who, at that time, did not have a spouse or partner born before 1924 or between 1931 and 1941, and were still household residents at the time of the first interview in 1998, and their spouses or partners at the time of the initial interview or at the time of any subsequent interview. The War Baby sub-sample was interviewed in 1998 and every two years thereafter.

The Early Baby Boomer (EBB) sub-sample consists of people who were born in 1948 through 1953, were household residents of the U.S. when first interviewed in 2004, and who, at that time, did not have a spouse or partner who was born before 1948, and their spouses or partners at the time of the initial interview.
or at the time of any subsequent interview. The Early Baby Boomer sub-sample was interviewed in 2004 and every two years thereafter.

The Mid Baby Boomer (MBB) sub-sample consists of people who were born between 1954 and 1959, were household residents of the U.S. when first interviewed in 2010/2011, and who, at that time, did not have a spouse or partner who was born before 1954, along with their spouses or partners at the time of the initial interview or at the time of any subsequent interview. The Middle Baby Boomer sub-sample was interviewed in 2010/2011 and every two years thereafter.

Both the EBB and MBB sub-samples were supplemented in the 2010 wave with a sample of individuals residing in areas with 10% or higher concentrations of Black and/or Hispanic populations in order to boost the size of the minority samples in those cohorts.

The Late Baby Boomer (LBB) sub-sample consists of people who were born in 1960-1965, were household residents of the U.S. when first interviewed in 2016, and who, at that time, did not have a spouse or partner who was born before 1959, along with their spouses or partners at the time of the initial interview or at the time of any subsequent interview. The Late Baby Boomer sub-sample was interviewed in 2016 and will be interviewed every two years thereafter.

Original sample members are those selected as described above and their spouses or partners at the time of the initial interview in 1992 (HRS), 1993 (AHEAD), 1998 (CODA or WB), 2004 (EBB), 2010/2011 (MBB) or 2016 (LBB). For more details about the sample, see our Web site.

1B. 2018 Questionnaire Sections

<table>
<thead>
<tr>
<th>Section</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR</td>
<td>Preload</td>
</tr>
<tr>
<td>A</td>
<td>Coverscreen</td>
</tr>
<tr>
<td>B</td>
<td>Demographics</td>
</tr>
<tr>
<td>C</td>
<td>Physical Health</td>
</tr>
<tr>
<td>D</td>
<td>Cognition</td>
</tr>
<tr>
<td>E</td>
<td>Family Structure</td>
</tr>
<tr>
<td>F</td>
<td>Parents, Siblings and Transfers</td>
</tr>
<tr>
<td>G</td>
<td>Functional Limitations and Helpers</td>
</tr>
<tr>
<td>H</td>
<td>Housing</td>
</tr>
<tr>
<td>I</td>
<td>Physical Measures and Biomarkers</td>
</tr>
<tr>
<td>J</td>
<td>Employment</td>
</tr>
<tr>
<td>J2</td>
<td>Pensions</td>
</tr>
<tr>
<td>J3</td>
<td>Retirement and Social Security</td>
</tr>
<tr>
<td>M</td>
<td>Disability</td>
</tr>
<tr>
<td>N</td>
<td>Health Services and Insurance</td>
</tr>
<tr>
<td>P</td>
<td>Expectations</td>
</tr>
<tr>
<td>Q</td>
<td>Assets and Income</td>
</tr>
<tr>
<td>R</td>
<td>Asset Change</td>
</tr>
<tr>
<td>S</td>
<td>Widowed and Divorce</td>
</tr>
<tr>
<td>T</td>
<td>Wills and Life Insurance</td>
</tr>
<tr>
<td>U</td>
<td>Asset Verification</td>
</tr>
<tr>
<td>V</td>
<td>Modules</td>
</tr>
<tr>
<td>W</td>
<td>Event History, Internet Use and Social Security</td>
</tr>
<tr>
<td>Y</td>
<td>Time Calculations</td>
</tr>
<tr>
<td>IO</td>
<td>Interviewer Observations</td>
</tr>
<tr>
<td>LB</td>
<td>Leave-Behind Questionnaires</td>
</tr>
<tr>
<td>TN</td>
<td>Thumbnails</td>
</tr>
</tbody>
</table>
1C. Levels of Files
In the 2018 data collection instrument, most questions were asked of all respondents. Some questions were asked about the household. For two-respondent households, household level questions were asked of one respondent who was designated as the financial respondent, family respondent, or coverscreen respondent (the first respondent interviewed) on behalf of the entire household.

In addition to the familiar household-level and respondent-level files, the 2018 HRS Core (Final, Version 1.0), contains files at seven other levels: household-member-and-child, sibling, helper, transfer-to-child, transfer-from-child, jobs, and pension.

1C1. Household Level Files
Household-level files contain questions that were asked about the household of a designated coverscreen, financial, or family respondent. A coverscreen respondent answered family questions (section A) on behalf of the entire household; the coverscreen respondent may or may not be the family respondent. A family respondent answered family questions (section E) on behalf of the entire household, and a financial respondent answered household-level financial questions (sections H, Q, R and U) on behalf of the entire household. The household-level files contain one record for each household in which at least one interview was obtained in 2018.

1C2. Respondent Level Files
Respondent-level files contain questions that were asked of all respondents about themselves (or asked of a proxy about the respondent if the respondent was not able to give an interview). The files contain one record for each respondent or proxy who gave an interview in 2018.

1C3. Sibling Level File
The sibling-level file consists of characteristics of the respondent’s siblings. If a respondent had at least one living parent, he/she was asked a variety of questions about his/her siblings (Section F). The sibling file contains one record for each sibling of a respondent. Each respondent reports on his/her own parents and siblings. Sibling data are also stored in the preload section, H18PR_SB.

1C4. Household Member and Child Level Files
Household-member-and-child-level-files contain characteristics about household members and children. This information can come from Section A. (coverscreen) or the family respondent in Section E and also in the preload section.

1C5. Helper Level File
The helper-level file contains information provided by each respondent about helpers. A helper may be a person or organization that was reported by the respondent as providing help with Activities of Daily Living (ADLs) or Instrumental Activities of Daily Living (IADLs). The file contains one record for each helper. If a child helped both respondents in a two respondent household, the helper file will contain two records – one of mother’s report of the child’s helping her and one for father’s report of the child’s helping him.

1C6. Transfer-to-Child-Level File
The transfer-to-child-level file contains information provided by the family respondent about transfers of money to a child or grandchild. The file contains one record for each transfer to a child or grandchild.
1C7. Transfer-from-Child-Level-File
The transfer-from-child-level file contains information provided by the family respondent about transfers of money from a child or grandchild. The file contains one record for each transfer from a child or grandchild.

1C8. Pension Level Files
Pension-level files contain information about pensions that the respondent has reported over the years during their involvement with the HRS. Each file contains one record for each pension that has been reported and followed up on in the current data collection.

1C9. Jobs level files
Job-level files contain information on jobs the respondent has reported over time. Current jobs are represented, as well as past employment with unresolved pensions from past waves. The files have one record for each job represented.

2. File Naming Conventions
Files are named beginning with “H18” for HRS 2018, followed by a letter (or two) designating the questionnaire section. A separator, “_” and then one or two letters designating the level follows the section letter designator.

H for household-level
R for respondent-level
MC for household-member-and-child-level
SB for sibling-level
HP for helper-level
TC for transfer-to-child-level
FC for transfer-from-child-level
JB for jobs-level
P for pension-level

For example, the file H18A_R includes variables from Section A (coverscreen) at the respondent level, whereas, H18A_H contains variables from Section A (coverscreen) at the household level.

The following extensions are used for the six different types of files that are distributed.

.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.

One of each of these file types is provided for each of the 40 data files for the 2018 HRS Core (Final, Version 1.0) data release. For example,

H18A_R.da contains respondent data from Section A,
H18A_R.sas contains corresponding SAS program statements,
H18A_R.sas7bdat contains “ready-to-use” data in SAS format
H18A_R.sps contains corresponding SPSS program statements,
H18A_R.sav contains “ready-to-use” data in SPSS format
H18A_R.do contains corresponding Stata DO statements,
H18A_R.dct contains corresponding Stata dictionary statements,
H18A_R.dta contains “ready-to-use” data in Stata format, and
H18A_R.txt contains the ASCII codebook.

3. Data Files

The 2018 HRS Core (Final, Version 1.0) data are distributed in 40 data files. The files are listed below along with the number of cases (N), number of variables (NV), and the primary identifiers (IDS). The records in the data files are sorted in order by these primary identifiers.

The 2018 HRS Core data are provided in ASCII format, with fixed-length records. Use associated SAS, SPSS or Stata program statements to read the data into the analysis package of your choice.

<table>
<thead>
<tr>
<th>Household level files, IDS=HHID, QSUBHH</th>
</tr>
</thead>
<tbody>
<tr>
<td>H18PR_H      N=12467     NV=  43</td>
</tr>
<tr>
<td>H18A_H       N=12467     NV=  48</td>
</tr>
<tr>
<td>H18E_H       N=12467     NV= 142</td>
</tr>
<tr>
<td>H18H_H       N=12467     NV= 213</td>
</tr>
<tr>
<td>H18Q_H       N=12467     NV= 670</td>
</tr>
<tr>
<td>H18R_H       N=12467     NV= 113</td>
</tr>
<tr>
<td>H18U_H       N=12467     NV= 247</td>
</tr>
<tr>
<td>H18I0_H      N=12467     NV=  54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respondent level files, IDS=HHID, PN, QSUBHH</th>
</tr>
</thead>
<tbody>
<tr>
<td>H18PR_R     N=17146     NV= 180</td>
</tr>
<tr>
<td>H18A_R       N=17146     NV=  37</td>
</tr>
<tr>
<td>H18B_R       N=17146     NV= 167</td>
</tr>
<tr>
<td>H18C_R       N=17146     NV= 258</td>
</tr>
<tr>
<td>H18D_R       N=17146     NV= 286</td>
</tr>
<tr>
<td>H18F_R       N=17146     NV= 191</td>
</tr>
<tr>
<td>H18G_R       N=17146     NV= 158</td>
</tr>
<tr>
<td>H18I_R       N=17146     NV= 192</td>
</tr>
<tr>
<td>H18I0_R      N=17146     NV=  80</td>
</tr>
<tr>
<td>H18J_R       N=17146     NV= 600</td>
</tr>
<tr>
<td>H18J3_R      N=17146     NV= 181</td>
</tr>
<tr>
<td>H18LB_R      N=17146     NV= 413</td>
</tr>
<tr>
<td>H18M1_R      N=17146     NV= 262</td>
</tr>
<tr>
<td>H18M2_R      N=17146     NV= 375</td>
</tr>
<tr>
<td>H18N_R       N=17146     NV= 339</td>
</tr>
<tr>
<td>H18P_R       N=17146     NV=  57</td>
</tr>
<tr>
<td>H18S_R       N=17146     NV= 113</td>
</tr>
<tr>
<td>H18T_R       N=17146     NV= 110</td>
</tr>
<tr>
<td>H18TN_R      N=17146     NV=  19</td>
</tr>
<tr>
<td>H18V_R       N=17146     NV= 234</td>
</tr>
<tr>
<td>H18W_R       N=17146     NV=  17</td>
</tr>
<tr>
<td>H18Y_R       N=17146     NV=  34</td>
</tr>
</tbody>
</table>

Household member and child level files, IDS=HHID, QSUBHH, OPN
| H18PR_MC     N=68782     NV=  26  |
| H18E_MC      N=55683     NV=  29  |

Sibling level files, IDS=HHID, PN, OPN
| H18PR_SB     N=19406     NV=  16  |
Transfer-to-child-level-file, IDS=HHID, QSUBHH
H18F_SB     N=19406      NV=  29

Transfer-from-child-level-file, IDS=HHID, QSUBHH
H18E_TC     N= 5137      NV=  25

Helper level file, IDS=HHID, PN, OPN
H18G_HP     N= 4725      NV=  31

Jobs level file, IDS=HHID, PN, JOBID
H18PR_JB    N=22805      NV= 16

Pension level files, IDS=HHID, PN, Pension ID
H18PR_P     N= 5699      NV=  17
H18J2_P     N=12166      NV= 184

3A. Construction of the Interviewer Observation Files (IO_R and IO_H).
The interview observations can have many entries for each sample ID. In order to
create the release files we use the following guidelines:

IO_R: we first look for the lines are taken from a completed interview (result
code = 1001). If there is no such data for a given Sample ID, we then take the
last observation recorded for that sample ID.

IO_H: is a little more complicated, as the most important factor for the
Household level file is the housing observations, which can be recorded at any
time. For each HH, we look for the first and most complete set of housing
observation questions for the household, as it could have been recorded on the
line of either respondent. We use that record for the Household Level
observation file.

4. Identification Variables
Identification variables for HRS 2018 are stored in character format.

4A. Primary Identification Variables
Several variables, HHID, QSUBHH, PN, OPN, are used in various combinations to
uniquely identify the nine different level datasets that comprise this data
release.

4A1. HHID – Household Identification Number
In the initial wave of data collection (in 1992 for the HRS sub-sample, in 1993
for the AHEAD sub-sample, 1998 for the WB and CODA sub-samples, 2004 for the EBB
sub-sample, 2010/2011 for the MBB sub-sample and 2016 for the LBB sub-sample),
each sample household was assigned a Household Identifier. HHID is stable across
waves of data collection and uniquely identifies the original household and any
households derived from that household in subsequent waves of data collection.
HHID has six-digits.

4A2. QSUBHH – 2018 Sub-household Identifier
In combination with HHID, QSUBHH uniquely identifies a household at the time of
the 2018 data collection. Sub-household identifiers can be different at each
wave. QSUBHH has one-digit. For more information, see Examples of Sub-
Household and Respondent Person Number and Other Person Number Assignments.
4A3. **PN – Person Number**
In combination with HHID, PN uniquely identifies a respondent or respondent’s spouse or partner. PNs are unique within an original household (HHID). The PN assigned to a particular respondent does not change across waves. PN has three-digits.

4A4. **OPN – Other Person Number.**
In the 2018 data collection HHID, QSUBHH and OPN uniquely identify another person in the household member and child files; HHID, PN, and OPN uniquely identify another person in the helper or sibling files. OPN has three-digits.

4B. **Primary Identification Variables for Datasets at Each of the Nine Levels**
Two identifiers uniquely identify records in the
- **respondent-level datasets:**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
  2) PN  RESPONDENT PERSON IDENTIFICATION NUMBER

Two identifiers uniquely identify records in the
- **household-level datasets:**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
  2) QSUBHH  2018 SUB HOUSEHOLD IDENTIFICATION NUMBER

Three identifiers uniquely identify records in the
- **helper-level datasets:**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
  2) PN  RESPONDENT PERSON IDENTIFICATION NUMBER
  3) OPN  OTHER PERSON NUMBER

Three identifiers uniquely identify records in the
- **household-member-and-child-level:**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
  2) QSUBHH  2018 SUB HOUSEHOLD IDENTIFICATION NUMBER
  3) OPN  OTHER PERSON NUMBER

Three identifiers uniquely identify records in the
- **sibling-level datasets:**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
  2) PN  RESPONDENT PERSON IDENTIFICATION NUMBER
  3) OPN  OTHER PERSON NUMBER

Three identifiers uniquely identify records in the
- **transfer-to-child-level, and**
  - **transfer-from-child-level datasets:**
    1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
    2) QSUBHH  2018 SUB HOUSEHOLD IDENTIFICATION NUMBER
    3) OPN  OTHER PERSON NUMBER

Three identifiers uniquely identify records in the
- **Pension Level Data sets**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
  2) PN  RESPONDENT PERSON IDENTIFICATION NUMBER
  3) Z505  PENSION TRACKING NUMBER

Three identifiers uniquely identify records in the
- **Jobs level datasets:**
  1) HHID  HOUSEHOLD IDENTIFICATION NUMBER
4C. Secondary Identification Variables
In addition to the primary identification variables that uniquely identify records in a dataset, secondary identification variables that allow links to other datasets are provided. Two sets of secondary identification variables are provided. They are listed below.

Secondary Identification Variables for
- respondent-level datasets
- sibling level datasets
- helper-level datasets
- job-level datasets and
- Pension-level datasets

QSUBHH 2018 SUB HOUSEHOLD IDENTIFICATION NUMBER
PSUBHH 2016 SUB HOUSEHOLD IDENTIFICATION NUMBER
OPN_SP 2018 SPOUSE/PARTNER PERSON NUMBER
QCSR 2018 WHETHER COVERSHEET RESPONDENT
QFAMR 2018 WHETHER FAMILY RESPONDENT
QFINR 2018 WHETHER FINANCIAL RESPONDENT

Secondary Identification Variables for
- household level datasets
- household member or child level datasets
- transfer-from-child-level datasets and
- transfer-to-child-level datasets

QSUBHH 2018 SUB HOUSEHOLD IDENTIFICATION NUMBER
PSUBHH 2016 SUB HOUSEHOLD IDENTIFICATION NUMBER
OPN_CS PERSON NUMBER OF COVER SCREEN RESPONDENT
QPN_FAM 2018 FAMILY RESP PERSON NUMBER
QPN_FIN 2018 FINANCIAL RESP PERSON NUMBER
QPN_NCS 2018 NON-COVERSCREEN RESP PERSON NUMBER
QPN_NFAM 2018 NON-FAMILY RESP PERSON NUMBER
QPN_NFIN 2018 NON-FINANCIAL RESP PERSON NUMBER

4D. Datasets Including QSUBHH and OPN as Primary Identifiers
When working with datasets including QSUBHH and OPN as primary identifiers -- household-member-and-child-level, it is essential to use QSUBHH to distinguish other persons.

Sometimes records with the same HHID and OPN will be separate reports about the same person. For example, Couple with Children and Siblings Divorces, the record where HHID is 890121, QSUBHH is 1, and OPN is 101 is the report about the child from the mother, and the record where HHID is 890121, QSUBHH is 2, and OPN is 101 is the report about the same child from the father.

At other times records with the same HHID and OPN will be reports about different persons. For example, a couple divorces, one respondent remarries, and both split-off households have new members. When a couple divorces and both split-off households have new members, the record where HHID is 871231, QSUBHH is 2, and OPN is 151 is for the ex-wife’s mother, while the record where HHID is 871231, QSUBHH is 1, and OPN is 151 is for the ex-husband’s new stepchild.
5. Distribution Files and Directory Structure

5A. Distribution Files
The files are packaged for download from our Web site in two different ways – as one large .zip file that contains six smaller .zip files, one .pdf file, and one .txt file, or the six smaller files available individually for separate download. The combined file is H18core.zip.

The individual .zip files for separate download are:

- **ASCII data files**
  - H18da.zip contains data files.

- **Program statements and “ready-to-use” files**
  - H18sas.zip contains SAS program statements (.sas) and “ready-to-use” files (.sas7bdat)
  - H18sps.zip contains SPSS program statements (.sps) and “ready-to-use” files (.sav)
  - H18sta.zip contains Stata program statements (.do), dictionary statements (.dct) and “ready-to-use” files (.dta)

- **Documentation files**
  - H18cb.zip contains the codebook.
  - H18qn.zip contains the questionnaire.
  - H18dd.pdf - this document.

5B. Directory Structure
While a particular setup is not required for using HRS files, we have traditionally suggested a directory structure. By using this directory structure, you will not have to change the path name in your program statement files. If you use a different structure, just change the directory references in the program statement files.

<table>
<thead>
<tr>
<th>Directory</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>c:\hrs2018</td>
<td>Files downloaded from Web site</td>
</tr>
<tr>
<td>c:\hrs2018\codebook</td>
<td>Unzipped files from H18cb.zip</td>
</tr>
<tr>
<td>c:\hrs2018\data</td>
<td>Unzipped files from H18da.zip</td>
</tr>
<tr>
<td>c:\hrs2018\qnaire</td>
<td>Unzipped files from H18qn.zip</td>
</tr>
<tr>
<td>c:\hrs2018\sas</td>
<td>Unzipped files from H18sas.zip</td>
</tr>
<tr>
<td>c:\hrs2018\spss</td>
<td>Unzipped files from H18sps.zip</td>
</tr>
<tr>
<td>c:\hrs2018\stata</td>
<td>Unzipped files from H18sta.zip</td>
</tr>
</tbody>
</table>

Decompress the selected .zip files into the appropriate subdirectories.

6. Program Statements
Each data file comes with associated SPSS, SAS, or Stata program statements to read the data. Files containing SPSS statements are named with .SPS extension, those with SAS statements with a .SAS extension, and those with Stata statements with .DO and .DCT extensions.

The statement files are named beginning with the same prefix as the corresponding data file. For example, SAS statements in the file H18A_R.SAS go with the H18A_R.DA data file.

6A. 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:\hrs2018\sas" and the data file is located in "c:\hrs2018\data", you can run the file as is. A SAS system file (*.SD2 or *.SAS7BDAT) will be saved to directory "c:\hrs2018\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.

6B. 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:\hrs2018\spss" and the data file is located in "c:\hrs2018\data", you can run the file as is. An SPSS system file (*.SAV) will be saved to directory "c:\hrs2018\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.

6C. 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:\hrs2018\Stata" and the data file is located in "c:\hrs2018\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.

7. Loading HRS Data Products in a Non-Windows Environment
All files released by The Health and Retirement Study are created in a Windows environment. This means that non-Microsoft users will need to modify the default Windows file structure syntax to match that of their own operating system. The instructions in this section provide advice on how to make these changes.

7A. Working in an OS X Environment
The following examples should work for both Macintosh OS X and any Unix/Linux distribution. Open the SAS program file(s), SPSS syntax file(s) or the Stata do/dct files in an ASCII editor and make the changes indicated below.

Important items for Mac OS X users to consider:
1. Use **Stuffit** instead of **Archive Utility** to decompress the downloaded zip file into a desktop folder.

2. When using the Apple ASCII text editor (**TextEdit**), select **Preferences** and make these changes…
   - Under Format, select **Plain text**
   - Under Options, uncheck
     - Smart quotes
     - Smart dashes

Better yet, install and use **TextWrangler**

**7A1. OS X: SPSS**

In this example, we assume that the user has downloaded the 2018 tracker dataset and placed the files in a **Desktop** folder called **trk2018** with the ASCII data file (.da) stored in subfolder **data** and the syntax file (.sps) in subfolder **spss**. The commands in the syntax file(s) should be modified to look like this:

```plaintext
FILE HANDLE trk2018TR_R /name='~/Desktop/trk2018/data/TRK2018TR_R.da'
LRECL=221.
DATA LIST FILE= trk2018TR_R /
HHID 1-6(A)
[rest of syntax file goes here]
execute.
SAVE /outfile '~/Desktop/trk2018/spss/TRK2018TR_R.sav'.
Execute.
```

**7A2. OS X: Stata**

In the following example we assume that the user has downloaded the 2018 tracker dataset and placed the files in a **Desktop** folder called **trk2018** with the ASCII data file (.da) stored in subfolder **data** and the syntax files (.do/.dct) in subfolder **stata**. Next step is to modify the .do and .dct files in the stata folder:

**File TRK2018TR_R.do:**

Change from…
```
infile using c:\trk2018\stata\TRK2018TR_R.dct
```
To…
```
infile using ~/Desktop/trk2018/stata/TRK2018TR_R.dct
```

Change from…
```
save c:\trk2018\stata\TRK2018TR_R.dta
```
To…
```
Save ~/Desktop/trk2018/stata/TRK2018TR_R.dta
```

**File TRK2018TR_R.dct:**

Change from…
```
dictionary using c:\trk2018\data\TRK2018TR_R.da {
    column(1) str6 HHID %6s "HOUSEHOLD IDENTIFIER"
    column(7) str3 PN %3s "PERSON NUMBER"
    [additional dictionary statements]
}
```
To…
```
dictionary using ~/Desktop/trk2018/data/TRK2018TR_R.da {
    column(1) str6 HHID %6s "HOUSEHOLD IDENTIFIER"
    column(7) str3 PN %3s "PERSON NUMBER"
```
[additional dictionary statements]

7B. Working in a Linux Environment

7B1. Linux: Stata
In the following system file build example we assume that the user (user1) has downloaded the 2018 tracker dataset and placed the files in a folder called `trk2018` (`/home/user1/trk2018`), with the ASCII data file (.da) stored in subfolder `data` (`/home/user1/trk2018/data`) and the syntax files (.do/.dct) in subfolder `stata` (`/home/user1/trk2018/stata`).

This process is very similar to the OS X example shown above. The main difference is that the file/folder structure will be somewhat different when he .do and .dct files in the stata folder are modified.

File TRK2018TR_R.do:
Change from...
    infile using c:\trk2018\stata\trk2018tr_r.dct
To...
    infile using /home/user1/trk2018/stata/trk2018tr_r.dct
Change...
    save c:\trk2018\stata\TRK2018TR_R.dta
To...
    save /home/user1/trk2018/stata/trk2018tr_r.dta

File TRK2018TR_R.dct:
Change from...
    dictionary using c:\trk2018\data\trk2018tr_r.da {
        column(1) str6 HHID %6s "HOUSEHOLD IDENTIFIER"
        column(7) str3 PN %3s "PERSON NUMBER"
        [additional dictionary statements]
    }
To...
    dictionary using /home/user1/trk2018/data/trk2018tr_r.da {
        column(1) str6 HHID %6s "HOUSEHOLD IDENTIFIER"
        column(7) str3 PN %3s "PERSON NUMBER"
        [additional dictionary statements]
    }

7B2. Linux: SAS
In the following examples we assume that the user (user1) is working in a folder named `saswork` (`/home/user1/saswork`), and is creating a SAS version of HRS products in a separate sub-folders (e.g./home/user1/saswork/2018/sas).

Building SAS system files (One Section)
In the following example we assume that the user has downloaded the 2018 tracker dataset and placed the files in a folder called `trk2018` (`/home/user1/saswork/trk2018`) with the ASCII data file (.da) stored in subfolder `data` (`/home/user1/saswork/trk2018/data`) and the syntax file (.sas) in subfolder `sas` (`/home/user1/saswork/trk2018/sas`). Next step is to modify `trk2018tr_r.sas` to match the folder structure:
In file trk2018tr_r.sas:
Change from...
   LIBNAME trk2018 'c:\trk2018\sas\';
   DATA trk2018.trk2018tr_r;
   INFILE 'c:\trk2018\data\trk2018tr_r.da' LRECL = 1028;
To...
   LIBNAME trk2018 '/home/user1/saswork/trk2018/sas/ ';
   DATA trk2018.trk2018tr_r;
   INFILE '/home/user1/saswork/trk2018/trk2018tr_r.da' LRECL = 1028;

When the SAS file is run, it will create file trk2018tr_r.sas7bdat in folder
/home/user1/saswork/trk2018/sas/.

Building SAS system files (Multiple Sections)
In the following example we assume that the user has downloaded the HRS 2018
Core dataset and placed the files in a folder called hrs2018
(/home/user1/saswork/hrs2018) with the ASCII data files (H18{sec}_{lvl}.da)
stored in subfolder data (/home/user1/saswork/hrs2018/data) and the syntax files
(H18{sec}_{lvl}.sas) in subfolder sas (/home/user1/saswork/hrs2018/sas).

Important: Begin by modifying each syntax file as follows:
Change all occurrences of...
   LIBNAME H2018 'c:\hrs2018\sas\';
To...
   LIBNAME H2018 '/home/user1/saswork/hrs2018/sas/';

Change the INFILE statement in each .sas file from...
   INFILE 'c:\hrs2018\data\H18{sec}_{lvl}.da' LRECL = nnn;
To...
   INFILE '/home/user1/saswork/hrs2018/data/H18{sec}_{lvl}.da' LRECL=nnn;

Example
   INFILE '/home/user1/saswork/hrs2018/data/H18A_H.da' LRECL=87;

8. Documentation
There are several types of documentation available for use with the 2018 HRS
Core (Final, Version 1.0) data release. These include a codebook and the 2018
box-and-arrow questionnaire. In addition, 2018 variables have been added to the
Online Concordance.

8A. Codebook
The HRS 2018 Codebook is provided as a series of 40 ASCII text files, as well as
a file containing all sections. There is a codebook file corresponding to each
data file. Each variable has its own codebook entry. The format of the codebook
is, for the most part, consistent with all previous releases.

8A1. Variable Names
Variable names begin with a letter designating the wave of data collection (Q
for 2018), followed by the section letter, and numbers after the section letter.
For example, QC001 where Q=2018, C=section C (physical health), and 001 is the
variable number. Variables from the preload section of the instrument will have
either QX or QZ as prefix letters. The X indicates a variable that is updated
by data collected in later sections of the questionnaire, whereas the Z indicates preloaded data that were not changed by subsequent answers to questions. For example:

QX007_R RESP FAM/FIN TYPE - UPDATED
Q2077_R PREV WAVE R PIN/FAM TYPE

QX007_R indicates that the preloaded Financial or Family respondent was changed, or updated, later in the instrument from what had been preloaded (or assigned) prior to the start of the 2018 interview.

8A1a. Multiple-response and Looped Variables

There are two types of variables with multiple mention indicators. First are simple multiple mentions and second are multiple mentions within loops.

Simple multiple mention variables take the form: (wave prefix) + (section letter) + (variable number) + (mention number). For example, QN219M1 through QN219M5 are 2018 variables from section N with one through 5 mentions.

Variable names for multiple mentions to questions within a loop take the form: (wave prefix) + (section letter) + (variable number) + (underscore) + (loop iteration) + (letter designating mention number). For example, QN049_1M1, is a 2018 variable from section N, variable number 049 in the first iteration of the loop, and the first mention.

Simple loop variables (not a multiple mention) have an underscore ( _ )in their name and a suffix that designates the loop, e.g., QN025_1.

For variables that have a “W” right after the section designator, the variable names are slightly different. Variable names for multiple mentions to questions within a W-loop take the form: (wave prefix) + (section letter) + (“W”) + (variable number) + (letter designating loop iteration) + (mention number). For example, QKW097A1, is a 2018 variable from section K, variable number 097 in the first iteration of the loop, and the first mention. Other non-multiple mention variables within this type of loop are named with the letter designating the loop iteration. For example, QKW002A, is variable number 002 in the first iteration of the loop.

Null multiple mention variables and variables from null loops beyond the first mention or first loop are not included in the data. It is generally the case that one null multiple mention and one null loop was retained.

8A1b. Masked Variables

To protect the confidentiality of the information that respondents provide, a number of variables have been masked or are simply not included in the Final release public dataset. Some of these variables may be made available to analysts as restricted data. See our Web site for details.

Names, addresses, days of birth, information on geographical relocation and similar variables are not included in publicly released files.

Geographical locations are recoded to a level no more detailed than U.S. Census Region and Division. Data on the highest educational degree earned have been further grouped together to increase cell sizes. The 2010 U.S. Census codes have been used to code the occupation and industry data in 2018.
The names of variables that were masked for confidentiality end in the capital letter "M"; for example, variable QX026M (1ST ADDRESS STATE – MASKED) and variable QB024M (FATHER USUAL OCCUPATION – MASKED).

8A1C. Other Specify Questions, Comments and Open Ends
“Other Specify” and “Open End”, or questions that are answered with text (e.g., vocabulary words, industry and occupation) are included in final data releases. Similarly, the Final release data also include comments made by respondents in the course of the interview. For the Final release, HRS staff reviewed these comments for selected questions, and the coded answer was changed if it was determined that the comment changed the substance of the recorded answer.

8A2. Other Types of Documentation
In addition to this document and the codebook, three additional types of documentation are available.

8A2a. Overview of HRS Public Data Files for Cross-sectional and Longitudinal Analysis
This is a thorough document that provides a description of structure and content for all HRS public data files and a detailed explanation for handling the longitudinal nature of the survey. It is located here: http://hrsonline.isr.umich.edu/sitedocs/dmgt/OverviewofHRSPublicData.pdf

8A2b. Box and Arrow Questionnaire
The research community has referred to the type of documentation that describes the questions asked in the interview as a “questionnaire”. Since the 2016 HRS data were collected using a Computer Assisted Interview (CAI) program, a traditional hard-copy questionnaire was not produced as part of the data collection phase. Therefore, in order to document question sequencing, we have provided a current-wave version of the traditional box and arrow questionnaire.

8A2c. Cross-Wave Tracker File
The cross-wave tracker file contains basic demographic information, interview status, and if, when and how an interview was conducted during a specific data collection period. The cross-wave tracker file also contains weight variables. The tracker file contains one record for every person who was ever eligible to be interviewed in any wave. Please refer to the Cross-Wave Tracker data description, located at the top of our Data Descriptions and Release Notes page for a more detailed description.

8B. Master Codes
A master code file contains detailed codeframes used in several sections of the codebook. The master codes include health conditions, occupation codes, industry codes, and state and country codeframes. The master codes appear in Appendix B.

9. Additional Notes
The following are miscellaneous additional notes regarding the 2018 HRS Core (Final, Version 1.0). If we become aware of additional issues, they will be posted on our Web site in the Data Alerts section.

9A. Households with No Family or Financial Respondents
As noted earlier in this document, the data collection design was to have asked most questions of all respondents and some questions of just a designated coverscreen, or family, or financial respondent on behalf of the household. However, occasionally that is not what happened. For some households we did not
obtain an interview from a family or financial respondent. There were 450 households that had no family respondent; 286 households had no financial respondent. There are 2 missing overscreen respondents in this wave. The household records for these households contain null values for the missing information. Households missing a family or financial respondent can be identified, respectively, by values of “Blank. No family/financial respondent” (in the household record) in the following variables:

- QPN_FAM - 2018 FAMILY RESP PERSON NUMBER
- QPN_FIN - 2018 FINANCIAL RESP PERSON NUMBER

9B. Unfolding Bracket Variables and Imputations

Typically, a series of unfolding bracket questions followed a lead-in question asking for an amount. If an actual amount was not given, a series of “unfolding” questions were asked. The manner in which the unfolding questions were programmed (Blaise) is different for the 2002 through 2010 data compared to the CAI (SurveyCraft) software used for 1993 through 2000. This change was transparent to the respondents, since exactly the same questions were asked with the new software as would have been asked with the old software; but it did have an implication for the data that were actually stored and also for the data that are released.

Instead of storing the response to each unfolding question, three summary variables were generated: the minimum and maximum values for the amount, given the answers to the unfolding questions, and if the last answer a respondent gave in an unfolding sequence was either “Don’t Know” or “Refused,” what that answer was. In 2002, if the Respondent said “more than” to the unfolding question with the highest value, then the maximum value was stored as ten times that value. However, in 2004 and 2010, if the Respondent said “more than” to the unfolding question with the highest value, then the maximum value was stored as 99999996.

For most analysts, those three variables (and in particular, the minimum and maximum of the possible range) will be sufficient for analyses. For any analyst who needs the more detailed information, it should be noted that the three variables, combined with the information about the unfolding questions provided in the box-and-arrow and codebook, are sufficient to allow the analyst to reconstruct the sequence of questions asked of any respondent, and the answers to each of those questions in many of the unfolding sequences.

For other sequences -- those in which respondents were randomly assigned to one of three "entry" points for the first unfolding question -- the analyst will also need to take into account a fourth variable (located in the preload sections) that specifies the entry point for each respondent. The following example shows the preload variable (PZ041) and the unfolding sequence that uses the random entry point from QZ041.

Example Random Entry Assignment Variable from Preload:

Preload Variable from the data file H18pr_h:

<table>
<thead>
<tr>
<th>QZ041</th>
<th>PREASSIGNED UNFOLD RANDOM VALUE - SELF EMPLOYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section: PR</td>
<td>Level: Household</td>
</tr>
<tr>
<td>Ref: HH.X041_UnfSEmpInc_V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UNFOLD ASSIGN - SELF EMPLOYMENT INCOME</td>
</tr>
<tr>
<td>4144</td>
<td>1. RANDOM ASSIGNMENT 1</td>
</tr>
<tr>
<td>4132</td>
<td>2. RANDOM ASSIGNMENT 2</td>
</tr>
<tr>
<td>4189</td>
<td>3. RANDOM ASSIGNMENT 3</td>
</tr>
</tbody>
</table>
Unfolding Series from section Q that uses QX041 to assign respondents an entry point:

QQ016 R INCOME FROM SELF EMPLOYMENT - MIN
Section: Q Level: Household Type: Numeric Width: 6 Decimals: 0
Ref: SecQ.RIncome.Q016_

Did it amount to less than $____ , more than $____ , or what?

PROCEDURES: 3Up, 2Up1Down, 1Up2Down
BREAKPOINTS: $5,000, $10,000, $25,000, $100,000
RANDOM ENTRY POINT ASSIGNMENT [1 ($5,000)] or [2 ($10,000)] or
[NOT 1 and NOT 2] ($25,000)] AT X041

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>129</td>
<td>0. Value of Breakpoint</td>
</tr>
<tr>
<td>7</td>
<td>5000. Value of Breakpoint</td>
</tr>
<tr>
<td>17</td>
<td>5001. Value of Breakpoint</td>
</tr>
<tr>
<td>1</td>
<td>10000. Value of Breakpoint</td>
</tr>
<tr>
<td>25</td>
<td>10001. Value of Breakpoint</td>
</tr>
<tr>
<td>5</td>
<td>25000. Value of Breakpoint</td>
</tr>
<tr>
<td>34</td>
<td>25001. Value of Breakpoint</td>
</tr>
<tr>
<td>3</td>
<td>100001. Value of Breakpoint</td>
</tr>
<tr>
<td>12246</td>
<td>Blank. INAP (Inapplicable); Partial Interview</td>
</tr>
</tbody>
</table>

QQ017 R INCOME FROM SELF EMPLOYMENT - MAX
Section: Q Level: Household Type: Numeric Width: 8 Decimals: 0
Ref: SecQ.RIncome.Q017_

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>4999. Value of Breakpoint</td>
</tr>
<tr>
<td>7</td>
<td>5000. Value of Breakpoint</td>
</tr>
<tr>
<td>18</td>
<td>9999. Value of Breakpoint</td>
</tr>
<tr>
<td>1</td>
<td>10000. Value of Breakpoint</td>
</tr>
<tr>
<td>18</td>
<td>24999. Value of Breakpoint</td>
</tr>
<tr>
<td>5</td>
<td>25000. Value of Breakpoint</td>
</tr>
<tr>
<td>29</td>
<td>99999. Value of Breakpoint</td>
</tr>
<tr>
<td>99</td>
<td>99999996. Greater than Maximum Breakpoint</td>
</tr>
<tr>
<td>12246</td>
<td>Blank. INAP (Inapplicable); Partial Interview</td>
</tr>
</tbody>
</table>

QQ018 R INCOME FROM SELF EMPLOYMENT - RESULT
Section: Q Level: Household Type: Numeric Width: 2 Decimals: 0
Ref: SecQ.RIncome.Q018_

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0. No Breakpoint values given during interview</td>
</tr>
<tr>
<td>18</td>
<td>98. DK (Don’t Know); NA (Not Ascertained)</td>
</tr>
<tr>
<td>72</td>
<td>99. RF (Refused)</td>
</tr>
<tr>
<td>12367</td>
<td>Blank. INAP (Inapplicable); Partial Interview</td>
</tr>
</tbody>
</table>
9C. 2018 Unfoldings Issues
Due to a programming issue, some errors were introduced into unfoldings data obtained from interviewer-administered interviews in 2018 under the following circumstances:

- The interviewer pressed the “enter” key on the keyboard without selecting a code while in the unfolding.
- The interviewer backed up to a previous field while in the unfolding.
- The interviewer backed up into an unfolding while outside of the unfolding and changed a response.
- Unfolding variables that exited the unfolding procedure prematurely.

To correct problems with unfoldings data, HRS staff compared audit trail data, which presents a record of the entries made and actions taken by interviewers as they completed an interview, against the Blaise data. Where possible, the audit trail data was used to reconstruct the interview data however not all unfoldings problems could be resolved due to incomplete or missing audit data.

9D. Modules for the 2018 Data Collection
There are 10 modules for 2018 HRS. The module data can be found in the file H18V_R. Topical areas of the modules include:

Module 1: Financial Decision Making and Coping
Module 2: Understanding Debt
Module 3: Dental Health and Dental Health Services
Module 4: Attitude Toward and Use of Marijuana (Cannabis) in Older Americans
Module 5: Entrepreneurship
Module 6: Perceived Effects of Behaviors and Conditions on Longevity
Module 7: Working Longer (Age < 65)
Module 8: Overuse of Health Care
Module 9: End of Life Decisions
Module 10: (65 AND OVER) HRS Adaptation of Patient Assessment of Care for Chronic Conditions

Select variables of Module 4 (QV401 to QV415) are available only as a sensitive health data product. Refer to this link for more information.

9E. Explanation of the Difference between Tracker and Core Data Releases
There are some areas where the Tracker File and the core data are different. Below are some examples. The examples rely on data from the HRS 2008 Core.

LSUBHH - The tracker file assigns a '9' for all new spouses in 2008 for the previous wave’s SUBHH number. The 2008 Final Release data, however, lists the SUBHH number of the household that the new spouse married into, since the new spouse will 'inherit' many of the relationships from that household.

LPN_SP - Even if a spouse did not give an interview in 2008, a spouse PN (LPN_SP) will exist in the core data. Additionally, for a non-original R’s new spouse, we assign a spouse PN (LPN_SP) and track the spouse's influence on the household with that number, even though we will never interview that person. In contrast, the tracker file will not reference these spouses.

Family and Financial R Assignments - As we keep a record of a non-interviewed spouse in the core data, we also release their assigned role in the household (i.e. family or financial R) with a listing for LPN_FIN, and LPN_FAM in the household sections. The tracker file will simply list the assignments of the
people interviewed. Therefore, for example, the 2008 Core Final data has a blank line in Section H for a household where '020' was the non-interviewed financial R. The tracker file would show the same household as not having a financial R.

Marital Status - It is important to note that marital status, as it was assigned in the 2008 data (LB063) may be different from the marital status variable (xMARST) in the Tracker file. Please refer to the Cross-Wave Tracker data description, located at the top of our Data Descriptions and Release Notes page for a more detailed description of how marital status was assigned and the criteria used to reclassify respondents. The marital status variable in the Tracker file was constructed by looking at several different sources of data, whereas the marital status variable in the 2008 Core Final data was not changed using outside sources, in order to preserve the flow through the instrument for respondents.

9F. Enhanced Face-to-Face Sample Design and Content
In 2006, HRS initiated what is referred to as an Enhanced Face-to-Face Interview. In addition to the core interview, the Enhanced Face-to-Face Interview includes a set of physical performance measures, collection of biomarkers, and a Leave-Behind Questionnaire on psychosocial topics. A random one-half of households were pre-selected for the enhanced face-to-face interview in 2006, with the other half of the sample selected for 2008, and the design is repeated in each subsequent wave. In coupled households, both members of the couple are selected. Selected respondents who completed a self (as opposed to proxy) interview, in-person (at least through Section I – the physical measures and biomarkers section), and who were non-institutionalized at the time of the interview were eligible for the physical measures and biomarkers components. This same group of respondents, plus those for whom an in-person proxy interview was completed, were also eligible for the Leave-Behind Questionnaire.

Psychosocial Leave-Behind Questionnaire (Section LB_R)
In 2004, HRS added a new feature for data collection in the form of self-administered questionnaires that were left with respondents upon the completion of an in-person Core Interview, referred to as the Leave-Behind Questionnaire. The purpose of the Leave-Behind Questionnaire is to collect additional information from respondents without adding to the interview length. In 2018, as in previous data collections since 2006, the Leave-Behind Questionnaire was incorporated into the Enhanced Face-to-Face Interview. The Leave-Behind Questionnaire administered in 2010 is called the Participant Lifestyle Questionnaire, and it includes questions on participation in general activities, relationships with others, and views on their life in general as well as specific aspects of their life.

Physical Performance Measures and Biomarkers (Section I_R)
- Blood pressure
- Hearing test
- Breathing test (peak flow)
- Grip strength
- Balance tests (semi-tandem, side-by-side, and with [30/60] second full-tandem)
- Timed walk (8 ft., eligible if 65 or older)
- Height
- Weight (eligible if weight is under 300 pounds)
- Waist circumference
Saliva (for which DNA was extracted and stored – eligible if saliva invalid previous wave or no saliva collection previous wave)

Dry blood spots (analyzed for Hemoglobin A1c, total cholesterol and HDL cholesterol)

With the exception of the timed walk, which was administered only to respondents 65 years of age or older, the physical measures and biomarkers were conducted on the full enhanced face-to-face sample.

Three separate consents were obtained to cover: 1) all of the physical measures, plus blood pressure; 2) saliva sample; and 3) dry blood spots. The physical measures booklet, which the interviewers used to administer the physical measures and biomarkers, is available on the HRS website Physical Measures 2018. The booklet contains the consent forms, as well as instructions and protocols for all of the measurements.

9G. Web Mode
In 2018, for the first time HRS added Web as an alternate mode for data collection for the core biennial interview. Web was offered as an alternative for telephone and regular face-to-face respondents only; respondents in the half-sample scheduled for the enhanced face-to-face interview were not eligible for Web this wave. Among the half-sample scheduled for telephone or regular face-to-face in 2018, there were just over 3,700 sample members who were eligible for Web based on a prior report of internet access along with other selection criteria (e.g., English speaking, self-respondent, non nursing-home resident in prior wave). Of the 3,700 Web eligible sample members, 60% were randomly selected for the Web sample with the remainder receiving their usual mode of either telephone or face-to-face for comparison purposes.

Participants in the Web sample received an advance letter inviting them to complete their 2018 interview on the Web and containing a URL to access the survey. This was followed two days later by an email with a link to the survey. A phone number was provided for respondents to contact us if they preferred to complete their interview by phone or needed assistance with the Web mode. Email and mail reminders were sent on a regular schedule.

Participants in the Web sample who had not completed the survey by Web after a predetermined period of no activity were contacted for a telephone interview and were able to resume the survey where they left off in the new mode. The Web survey was programmed to be as close as possible to the other modes. Rather than break the survey into components we designed it to allow respondents to work at their own pace and to stop at any point and return later to continue, even if they required several sessions to complete it.

Web Mode Variables
Within each section data file, mode variables are provided to aid in identifying which mode a respondent was in when they completed a given section: phone, face-to-face and Web. For Web we make a further distinction of “Web” and “Web-small” to differentiate between respondents who used a PC versus those who used smartphones or tablets. Respondents could switch back and forth between PC and smartphone or tablet throughout the interview.

Web Non-Response
In the web version of the questionnaire, respondents are allowed to leave any given question that was presented on the screen unanswered to comply with the voluntary nature of the survey. This was distinctly different from the interviewer-administered version of the questionnaire which did not allow
questions to be “empty.” If the respondent could not or refused to answer, the interviewer could select “Don’t Know” or “Refused” as appropriate. Web non-response cases were reviewed by HRS staff. We have incorporated “web non-response” indicators in the data to signal where a question was presented to the respondent but they did not answer. The web non-response flags are based on the final path taken by the respondent through the interview. If the respondent backed up to change an answer and went down a different path, the data for the first path was not retained.

Web Metadata
The Web survey was programmed to be as close as possible to the other modes. There are instances where the question text for Web differs from the telephone/in-person interview question text. The question text is documented in the codebook as “WEB-ADMINISTERED TEXT” as shown below. The questionnaire contains a complete description of the interview content by section including question wording, order and flow.

QB000                         LIFE SATISFACTION
Section: B     Level: Respondent      Type: Numeric    Width: 2   Decimals: 0
Ref: SecB.B000_

Now, please think about your life-as-a-whole. How satisfied are you with it? Are you completely satisfied, very satisfied, somewhat satisfied, not very satisfied, or not at all satisfied?

WEB-ADMINISTERED TEXT:
Now, please think about your life-as-a-whole. How satisfied are you with it?

3724           1.  COMPLETELY SATISFIED
7182           2.  VERY SATISFIED
4561           3.  SOMEWHAT SATISFIED
640            4.  NOT VERY SATISFIED
223            5.  NOT AT ALL SATISFIED
127            8.  DK (Don't Know); NA (Not Ascertained)
26             9.  RF (Refused)
663       Blank.  INAP (Inapplicable); Partial Interview

Section D Web Word Recall
HRS generated new variables for the Section D Web Immediate and Delayed Word Recall as described in the tables below.

<table>
<thead>
<tr>
<th>Immediate Recall</th>
<th>Delayed Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable Name</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>QD182WM#</td>
<td>WEB WORD RECALL IMMED. (where # denotes the multiple mention indicator 1, 2, 3, etc.)</td>
</tr>
<tr>
<td>QD174W</td>
<td>WEB NUMBER GOOD - IMMEDIATE</td>
</tr>
<tr>
<td>QD175W</td>
<td>WEB NUMBER WRONG - IMMEDIATE</td>
</tr>
<tr>
<td>QD176W</td>
<td>WEB NUMBER FORGOTTEN - IMMEDIATE</td>
</tr>
<tr>
<td>QD177W</td>
<td>WEB NONE REMEMBERED - IMMEDIATE - FLAG</td>
</tr>
<tr>
<td></td>
<td>QD191W</td>
</tr>
</tbody>
</table>
9H. Whole Blood Draws
Beginning in 2016, The Health and Retirement Study started collecting whole blood samples from respondents. Individuals are asked to consent to the whole blood draw at the end of the core interview and are mailed a $50 token of appreciation subsequent to the consent and before the whole blood draw appointment. An “acknowledgement of consent” is signed at the time of collection. In 2018, the entire LBB (Late Baby Boomer) cohort, anyone eligible for the whole blood draw in 2016 who did not consent to or complete a WBD request at that time, and any new respondents were eligible to participate. This request was made to all eligible self-interview Rs (regardless of mode of interview or preferred language), provided they were not in a nursing home.

9I. Section G: Functional Limitations and Helpers
Due to faulty programming, there were serious problems with variables QG004-QG007 in Section G: Functional Limitations and Helpers. These are part of a set of items derived from Nagi. The programming errors had the effect of skipping many people out of being asked these questions. As a result, a majority (87%) of respondents skipped at least one question within G004-G007 when they should have been asked these questions. This issue affects all interview modes in 2018.

The following variables were impacted by this error:
QG004 DIFFICULTY- SITTING 2 HOURS
QG005 DIFFICULTY- GETTING UP FROM CHAIR
QG006 DIFFICULTY- CLIMBING STAIRS
QG007 DIFFICULTY- CLIMBING 1 FLIGHT OF STAIRS

In addition, the sequence of questions on difficulty with activities of daily living were not asked of people who reported no difficulties with a subset of the Nagi items that includes G004, G005, and G007. As a result of faulty skips of those questions some people may not have been asked the ADL sequence who should have been. Thus, the following variables, to a lesser extent, have been impacted by this error:

G15 - HELP W/DRESS
G20 - ADL WALK HELP
G22 - ADL BATHE HELP
G24 - ADL EAT HELP
G29 - ADL BED HELP
G31 - ADL TOILET HELP

For cases affected by this error, HRS imputed missing data on G004-G007 and G15, G20, G22, G24, G29, and G31 for the 2018 Final Core release. Based on imputed responses to the ADL sequence, a very small number of respondents may have incorrectly not been asked the ADL helper questions (G17, G18, G20, for example). Given the very small number of cases involved, data for these variables was not imputed.

9J. Errata
The following list of questions were erroneously omitted from the 2018 questionnaire thus they were never asked of respondents, and are subsequently not included in the 2018 HRS Final Core data:

Section F: F061 and F186
Section J: J530, J531 and J532
9K. Summary of Data Model (DM) Changes during 2018 Production

During the field period, changes to the instrument need to be made in order to correct errors in the programming or to improve the quality of the data. The following is a summary of these changes. The variable QVDATE exists in all of the data files and it tells what version of the data model was used to collect a given interview.

Data Model 2 Changes:

Section A2 – Coverscreen

A958AFName: In order to address a blank fill that came up when the individual’s name is unknown, we implemented a signal for an “alias name”, such as “Danny’s partner” or “Cindy’s partner”.

Section D – Cognition

D106: Code was updated in order to address an issue where “wrong word” was coming before the first word on the list.

D148: Due to a programming error, code 11 was never used. This error has now been fixed.

Data Model 3 Changes:

Section A2 – Coverscreen

A228_HHMSummary: A fill condition was added so that when the R lives in a Nursing Home but the spouse/partner still lives in the couple’s home it reads: “Just to confirm, NOT INCLUDING SPOUSES, PARTNERS, OR CHILDREN NO ONE ELSE IS LIVING IN YOUR HOME IN [CITY, STATE]. If this is incorrect, please click on the “Add a resident” button on the right.”

Section D – Cognition

D194: Updated interviewer text from "Start timing as soon as you tell the R to begin." to "Do not use [Enter] until the end of the task count."

D244_DisplayD106CAPI: Corrected a programming error that was triggering an error message when “None remembered” was selected by itself.

D338: Changed interviewer instructions.

Section E – Children & Household Members

E146_KidOver10City: Corrected a programming issue that was causing resumed suspended interviews to drop city/state that had previously been entered.

Section G – Functional Limitations and Helpers

G098M: Changed question text to read: “What is the relationship to you of that person or persons?”

Section H – Housing

H100_HousingAssoc and H101_SeniorComplex: Corrected the interviewer text “Ask for record” which was showing as question text at H11 and missing from H101.

Section J – Employment

J172_HrsWrkPerWk: Added an interviewer instruction for all modes cases which reads: “1-95 hours”.

J176_WksPaidVac: Added an interviewer instruction for all modes cases which reads: "0-52 weeks".

September 2021, Version 1.0
J612: Updated the interviewer instruction for all modes cases to the bottom of the range from 1 to 0.

Section M2 - Disability
M685, M593, M605 and M598: Added other: (Specify) to missing fields.

Section N - Health Services & Insurance
N305 and N306: Corrected an error with the husband/wife/partner fill not showing up in Web.

N036: Added the word “late” to the fln035 fill to be more sensitive to respondents with deceased spouse/partners.

Section V - Experimental Modules
V000_ModuleIntro: For Web interviews, removed all options and changed 1. to “continue”.

--
Data Model 4 Changes:
Section A - Coverscreen
A166_A020TSameSpP_A and A020: Updated the fill so that the word “spouse” is displayed if a married Rs gender is missing.

Section D - Cognition
D194_Animals: updated to include newly added interviewer instructions in Spanish.

D245: Dropped help text meant for D197 which was showing up here in error.

Section T - Wills, Insurance and Trusts
T116-T128, T140-T145 and T204-T259: These questions were found to have a programming error where fields were not defined properly. The definitions were restored.

--
Data Model 5 Changes:
Section A2 - Coverscreen
A225ALiving and A235: Corrected sa programming issue where data was not being saved at A225 and A235.

Section B - Demographics
B001: To be consistent with variable renaming in Section A, the references to A213 have been changed to A231.

Section F - Parents & Sibling/Couple Decisions
A231_RMarSep: All husband/wife/partner fills that previously referenced only A034 now also reference A231.

F080_SibRoster: Modified the telephone/in-person interviewer instructions.

F237_SiblingSummary: A condition was added to address some Web instructions that were showing up in the telephone/in-person instructions when the R had no siblings reported.

Section H - Housing
H001_FarmRanch: All husband/wife/partner fills that previously referenced only A034 now also reference A231.
Data Model 6 Changes:

All Sections: Converted all state lists (telephone/in-person only) to drop down.

Section A - Coverscreen
A078_YrsCurRes: Updated telephone/in-person interviewer instructions to read “INSTR: If less than one year, enter ‘1’; Enter ‘95’ if R says ‘all my life’.

Section C - Health
C006, C011, C038, C062 and C285: Fixed minor grammatical issues.

Section E - Children & Household Members
E022: Changed fill text to read “late husband” instead of “late wife”.
E037: Updated the codeframe response option 2 to read “HELP R (AND/OR SPOUSE).”

Section H - Housing
H151: Updated the question text to make it more clear that rental properties should be excluded from responses.

Section S - Widowhood/Divorce
S003: Updated question text and changed the fills so that they default to “spouse”. Updated unfolding instructions for spouse proxy and non-spouse proxy throughout Section S.
S057 and S058: Made corrections to question text and fills.

Section V, Module 3 - Dental Health and Dental Health Services
V170: Updated programming so that V170 is skipped if the R has no teeth.

Section V, Module 7a - Working Longer (Age <65)
V706: Added a prompt (“Values over 120 are unlikely, please check.”) for Rs who answered greater than 120 minutes.
V707: Added a condition to ensure V707 is skipped if V706 is greater than 60.
V741: Due to confusion among the interviewers, question order was changed so that V706 comes before V741, V732 is before V742 and the interviewer instructions were updated accordingly. Added a prompt so that if R answered values 11-995 the interviewer was prompted to double check the entry.

Section W - Internet Use & Social Security Permission
W310: Added a prompt to validate the entry if W311=1 AND W310 code is NOT 2, 4, 5 or 9 or if W31W=2 and W310 code is not 1, 3, 4, 5, or 9.

Data Model 7 Changes:

Section A - Coverscreen
A023: Updated the programming to catch cases where R has the same spouse/partner but not spouse proxy.

Section D - Cognition
D143: Updated interviewer instructions that orient the interviewer to where they are in the subtraction (e.g. first, second, etc.).

Section E - Children & Household Members
E027: (Web and telephone/in-person) added a prompt to confirm the age entered.

Section H – Housing
H001: Updated the interviewer instructions.

Section J2 – Pensions
J356: Question order logic was changed to match the questionnaire.

Section J3 – Retirement and Social Security
For the following pairs of telephone/in-person variables, the “Year” was grouped with its stem variable: J564/J565, J568/J569, J572/J573, J574/J575, J576/J577 and J559/J960.

Section N – Health Services and Insurance
N188: Corrected the survey for instances when values should have been assigned to N180 (based on responses to V443 and N444) but were not.

Section P – Expectations
P113: Updated Survey to not allow empty answers.
P182: Updated programming so that Rs age 65 to 69 get asked this question.
P199: Updated programming so that the question is asked even if P018 is 0%.

Section U – Asset Verification
U0003: Updated the program so that there are values in the stem question only and not the unfolding (i.e. min, max and result) questions.

Section V, Module 7a – Working Longer (Age, 65)
U741: Added restrictions to enforce the rules from the questionnaire (e.g. restricted to 0 to 10 hours).

--

Data Model 8 changes:

Section A – Coverscreen
AQ078: Updated interviewer instructions for web survey to read “If less than one year, enter ‘1’.

Section A2 – Coverscreen
X056: Changes were made to address a programming error where inappropriate follow-up questions were being asked about deceased children.

A137: Corrected a flow problem where respondents were routed to A140 instead of A138; updated interviewer instructions.

Section D – Cognition
D159: Made a correction to the web survey so that only interviewer assisted (telephone/in-person) respondents get the vocabulary series.

Section E – Children & Household Members
E027: Updated the programming to not ask this question if the child is a duplicate.

Section H – Housing
H115: Made an adjustment to the flow so that Rs will get the question when A237=DK/RF.
Section N – Health Services and Insurance
N261: During the data collection period, this variable was changed from a single mention to a multiple mention.

N280: If an R answered DK/RF, N090 was not updating; updated telephone/in-person programming to have the prompt “Your responses are important to us. Please try to answer each question.”

Section T – Wills, Insurance and Trusts
T254: Problem identified with Rs who identify one parent as deceased and the other as DK. Updated the fill so that if the parent is dead or if the response is DK, the fill works correctly.

Section U – Asset Verification
U001: Addressed a programming issue where data was not cleared for Rs who went through an unfolding, backed up and entered a value at the stem field. Updated so that if R leaves U001 empty, it is treated like a refusal and the R is skipped out of Section U.

Section V5 – Entrepreneurship
V330: Updated question text to: “I need to keep my health insurance through my employer.”

Section V7a – Working Longer (Age <65)
V706: Updated the telephone/in-person programming so that Rs who work from home are routed to V708 instead of V707.

V708: Updated the telephone/in-person and Web programming so that if an R provides an answer at V706/V741, moves forward in the survey and then backs up to change their response at V706/V741, the new answer is stored in V743.

--

Data Model 9 Changes:
Section D – Cognition
D171_Assist: Activated D171_Assist for web respondents to act as an indicator that a respondent completed Section D; changed the web instruction text to read: “Families and friends often help one another in different ways. Part of our research involves finding out how they do that.”

D106: Data was inadvertently being cleared for respondents who were in web mode and switched to interviewer assist mode. D106 was corrected to save after a mode switch or after the respondent leaves Section D in web and/or interviewer assist.

Section E – Children & Household Members
E129_E012: Updated Introductory question text for interviewer assisted and exit interviews to read “Families and friends often help one another in different ways. Part of our research involves finding out how they do that.”

Section P – Expectations
P198/P199: Made corrections to disallow answers greater than 100; also made corrections so that respondents who do/do not meet the age criteria are/are not skipped out of the question.

P028: Updated the interviewer instructions for web respondents.
P102: Updated the question text to read “Do you think that it is about equally likely that you will die before 75 as it is that you will live to 75 or beyond, or are you just unsure about the chances?”

P181 and P182: Corrected errors in the ask rules for determining who gets P181 and P182 to (1) make sure that respondents age 65–69 got asked and (2) to ensure that P181 and P182 are asked even if P018 is 100%.

Section V – Experimental Modules
V900_LeaveBehind: Added W311=FTF as a condition to get into V900 (in addition to X090 and Section I) to prevent respondents who switch to phone between section I and W311 from getting the Self-Administered Questionnaire.

--
Data Model 10 Changes:
Section A2 – Coverscreen
A208: A programming error was discovered where data was retained for respondents with children (A208) who added the child’s name at variable X058 and then went back and said no at A208. The data copying error was fixed.

Section D – Cognition
D106: Data was inadvertently being cleared for respondents who were in web mode and switched to interviewer assist mode. When the interviewer resumes the interview, the R resumes at the beginning of Section D.

--
Data Model 11 Changes:
All Sections – Corrected the “Just to confirm” fill language that displayed when web respondents switch to interviewer assist mode.

--
Data Model 12 Changes:
Section M1 – Disability
QMW238A and QMW239A: Removed extraneous characters from question text, changed question text from “[Social Security Disability/Social Security][program]” to “[Social Security Disability/Insurance].”

9L. New/Modified Questions in HRS 2018
Section A: Coverscreen – A000_1, A000_2, A237, A247, A221, A225(CHILD), A224(CHILD), A226(CHILD), A971a(CHILD), A221(CHILD), A225(HHM), A235(HHM), A228(HHM), A226(HHM)

Section C: Health – C184, C300, C298, C297, C299, C305, C306, C307, C308, C309, C310, C311 C312, C313, C314, C315, C316, C301, C302, C303, C304

Section D: Cognition – D237, D238

Section F: Parents & Sibling/Couple Decisions – F241AConfirm, F243, F245, F244, F246, F237

Section J: Employment – J966, J965

Section N: Health Services & Insurance – N444, N445, N451, N452

Section T: Wills, Insurance and Trusts – T253, T254, T255, T256, T257, T258, T259
Section V: Experimental Modules – The full content of the Experimental Modules changes each wave of data collection.

10. OBTAINING THE DATA

10A. Registration and Downloading the Data
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.

10B. Conditions of Use
By registering, you agree to the Conditions of Use governing access to Health and Retirement public release data.

10C. 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.

11. If You Need to Know More
This document is intended to serve as a brief overview and to provide guidelines to using the 2018 HRS Core (Final, Version 1.0) data. If you have questions or concerns that are not adequately covered here or on our Web site, or if you have any comments, please contact us. We will do our best to provide answers.

11A. 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.

11B. Contact Information:
If you need to contact us, you may do so by one of the methods listed below.

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

A. Examples of Sub-Household and Respondent Person Number and Other Person Number Assignments

In the first year of data collection, all households, consisting of either a single respondent or of two married or partnered respondents, were assigned a SUBHH of 0.

In subsequent waves, a SUBHH of 0 indicates that the original household has not split due to divorce or separation of spouses or partners, although one member of a couple may have died or a single respondent may have become married or partnered.

A value of 1 or 2 indicates a household in which the original couple split, divorced or separated. One of the original couple is assigned a SUBHH of 1; the other is assigned a SUBHH of 2.

A value of 5 or 6 indicates a previously split household split a second time. One of the couple from a SUBHH 1 or 2 retains a SUBHH of 1 or 2; the other is assigned a SUBHH 5 or 6.

A value of 7 indicates respondents from split household reunited1. It is important to understand these assignments when you merge records from different waves of the study.

A1. Married Couple Stays Married

Two respondents in a sample household are married at the time of the first cross-section. Each respondent is assigned a HHID of 012345 and a SUBHH of 0. One respondent has a PN of 010, the other a PN of 020.

At the time of the second cross-section the two respondents are still married, and each retains their HHID of 012345 and their SUBHH of 0 and his and her PN of 010 and 020, respectively.

**Time 1**

Household records
HHID=012345 ASUBHH=0
Respondent records
HHID=012345 PN=010 ASUBHH=0
HHID=012345 PN=020 ASUBHH=0

**Time 2**

Household records
HHID=012345 CSUBHH=0
Respondent records
HHID=012345 PN=010 CSUBHH=0
HHID=012345 PN=020 CSUBHH=0

1In addition, a SUBHH of 3 or 4 indicates the “household” of a deceased respondent who is considered to be in a household of his or her own. These values do not occur in these files because all records in these files are from living respondents.
A2. Couple Divorces
Two respondents in a sample household are married at the time of the first cross-section. Each respondent is assigned a HHID of 023456 and a SUBHH of 0. One respondent has a PN of 010, the other a PN of 020.

By the time of the second cross-section, the couple has divorced. Both respondents retain the HHID of 023456, but one is assigned a SUBHH of 1 and the other is assigned a SUBHH of 2. Each original respondent retains his and her PN of 010 and 020, respectively.

Time 1
Household records
   HHID=023456 ASUBHH=0
Respondent records
   HHID=023456 PN=010 ASUBHH=0
   HHID=023456 PN=020 ASUBHH=0

Time 2
Household records
   HHID=023456 CSUBHH=1
   HHID=023456 CSUBHH=2
Respondent records
   HHID=023456 PN=010 CSUBHH=1
   HHID=023456 PN=020 CSUBHH=2

A3. One or Both Respondents Die
Two respondents in a sample household are married at the time of the first cross-section. Each respondent is assigned a HHID of 034567 and a SUBHH of 0. One respondent has a PN of 010, the other a PN of 020.

One respondent dies before the next wave. At the next wave, both respondents retain their HHID of 034567. The living respondent retains her SUBHH of 0; the deceased respondent is assigned a SUBHH of 3. (If both respondents die, one would be assigned a SUBHH of 3 and the other would be assigned a SUBHH of 4.) Each original respondent retains his and her PN of 010 and 020, respectively.

Time 1
Household records
   HHID=034567 ASUBHH=0
Respondent records
   HHID=034567 PN=010 ASUBHH=0
   HHID=034567 PN=020 ASUBHH=0

Time 2
Household records
   HHID=034567 CSUBHH=0
   HHID=034567 CSUBHH=3 (in exit interview)
Respondent records
   HHID=034567 PN=010 CSUBHH=3 (in exit interview)
   HHID=034567 PN=020 CSUBHH=0

A4. Single Respondent Marries
A respondent who has never been married is in the first cross-section. The respondent is assigned a HHID of 045678 and a SUBHH of 0 and a PN of 010.

At the time of the second cross-section, the respondent has married. Both the respondent and her new spouse are assigned a HHID of 045678 and a SUBHH of 0 because the household was not divided. The original respondent retains her PN of 010. Her new spouse is assigned PN of 011.
Time 1
Household records
  HHID=045678 ASUBHH=0
Respondent records
  HHID=045678 PN=010 ASUBHH=0

Time 2
Household records
  HHID=045678 CSUBHH=0
Respondent records
  HHID=045678 PN=010 CSUBHH=0
  HHID=045678 PN=011 CSUBHH=0

A5. Couple Divorces, One Respondent Remarries and Divorces
Two respondents in a sample household are married at the time of the first
cross-section. Each respondent is assigned a HHID of 056789 and a SUBHH of 0.
One respondent has a PN of 010, the other a PN of 020.

By the time of the second cross-section, the couple has divorced and he has
remarried. Both original respondents retain the HHID of 056789, but she is
assigned a SUBHH of 1 and he is assigned a SUBHH of 2. His new spouse is also
assigned the HHID of 056789 and the SUBHH of 2. Each original respondent retains
his and her PN of 010 and 020, respectively. His new spouse is assigned PN of
011.

By the time of the third cross-section, that new couple has gotten divorced. All
respondents retain the HHID of 056789. The original sample member ex-wife has
the SUBHH of 1. The original sample member ex-husband has a SUBHH of 2, and the
non-original sample member, his second ex-wife, is assigned the SUBHH of 5. Each
original respondent retains his and her PN of 010 and 020, respectively. His
second ex-wife retains her PN of 011.

Time 1
Household records
  HHID=056789 ASUBHH=0
Respondent records
  HHID=056789 PN=010 ASUBHH=0
  HHID=056789 PN=020 ASUBHH=0

Time 2
Household records
  HHID=056789 CSUBHH=1
  HHID=056789 CSUBHH=2
Respondent records
  HHID=056789 PN=010 CSUBHH=2
  HHID=056789 PN=011 CSUBHH=2
  HHID=056789 PN=020 CSUBHH=1

Time 3
Household records
  HHID=056789 FSUBHH=1
  HHID=056789 FSUBHH=2
  HHID=056789 FSUBHH=5
Respondent records
  HHID=056789 PN=010 FSUBHH=2
  HHID=056789 PN=011 FSUBHH=5
A6. Couple Divorces and Marries Again
Two respondents in a sample household are married at the time of the first cross-section. Each respondent is assigned a HHID of 067890 and a SUBHH of 0. One respondent has a PN of 010, the other a PN of 020.

By the time of the second cross-section, the couple has divorced. Both respondents retain the HHID of 067890, but one is assigned a SUBHH of 1 and the other is assigned a SUBHH of 2. Each original respondent retains his and her PN of 010 and 020, respectively.

By the time of the third cross-section, the respondents have remarried each other. Both are assigned the HHID of 067890 and the SUBHH of 7. Each original respondent retains his and her PN of 010 and 020, respectively.

Time 1
Household records
  HHID=067890 ASUBHH=0
Respondent records
  HHID=067890 PN=010 ASUBHH=0
  HHID=067890 PN=020 ASUBHH=0

Time 2
Household records
  HHID=067890 CSUBHH=1
  HHID=067890 CSUBHH=2
Respondent records
  HHID=067890 PN=010 CSUBHH=1
  HHID=067890 PN=020 CSUBHH=2

Time 3
Household records
  HHID=067890 FSUBHH=7
Respondent records
  HHID=067890 PN=010 FSUBHH=7
  HHID=067890 PN=020 FSUBHH=7

A7. Married Couple with Children and Siblings
At the time of the first cross-section, sample household with a HHID of 078901 contains two respondents assigned PNs of 010 and 020, respectively. Associated with the household are three children with OPNs of 101, 102, and 103, and two siblings with OPNs of 051 and 052. All seven persons will keep those same PNs and OPNs across time. A friend who lives with the respondents is assigned an OPN of 080. The friend will keep her OPN of 080 across time only if she is a household member at each wave.

Time 1
Household records
  HHID=078901 ASUBHH=0
Respondent records
  HHID=078901 PN=010 ASUBHH=0
  HHID=078901 PN=020 ASUBHH=0

Household member/child records
  HHID=078901 ASUBHH=0 OPN=101 (child)
  HHID=078901 ASUBHH=0 OPN=102 (child)
A8. Couple with Children and Siblings Divorces

At the time of the first cross-section, sample household with a HHID of 089012 contains two respondents assigned PNs of 010 and 020, respectively. Associated with the household are two children with OPNs of 101 and 102, and three siblings, her two brothers with OPNs of 051 and 052 and his sister with an OPN of 061. A friend who lives with the respondents is assigned an OPN of 080.

By the time of the second cross-section, the couple has divorced. Both respondents retain the HHID of 089012, but he is assigned a SUBHH of 2 and she is assigned a SUBHH of 1. Each original respondent retains his and her PN of 010 and 020, respectively.

The two children appear both in their father’s SUBHH 2 and also in their mother’s SUBHH 1 with their respective OPNs, 101, and 102. The three siblings appear in the SUBHH of their respective siblings and maintain their respective OPNs. The ex-wife’s brothers appear as part of her SUBHH 1 with their OPNs of 051 and 052, respectively. The ex-husband’s sister appears as part of his SUBHH 2 with her OPN of 061. The friend has moved out and does not appear in either household.

Time 1
Household records
HHID=089012 ASUBHH=0
Respondent records
HHID=089012 PN=010 ASUBHH=0
HHID=089012 PN=020 ASUBHH=0
Household member/child records
HHID=089012 ASUBHH=0 OPN=101 (child)
HHID=089012 ASUBHH=0 OPN=102 (child)
HHID=089012 ASUBHH=0 OPN=051 (her brother)
HHID=089012 ASUBHH=0 OPN=052 (her brother)
HHID=089012 ASUBHH=0 OPN=061 (his sister)
HHID=089012 ASUBHH=0 OPN=080 (friend)

Time 2
Household records
HHID=089012 CSUBHH=1
HHID=089012 CSUBHH=2
Respondent records
HHID=089012 PN=010 CSUBHH=2
HHID=089012 PN=020 CSUBHH=1
Household member/child records
HHID=089012 CSUBHH=1 OPN=101 (child)
HHID=089012 CSUBHH=1 OPN=102 (child)
HHID=089012 CSUBHH=1 OPN=051 (her brother)
HHID=089012 CSUBHH=1 OPN=052 (her brother)
HHID=089012 CSUBHH=2 OPN=101 (child)
HHID=089012 CSUBHH=2 OPN=102 (child)
HHID=089012 CSUBHH=2 OPN=061 (his sister)
A9. Couple Divorces, One Respondent Remarries, Both Split-off Households Have New Members

Two respondents in a sample household are married at the time of the first cross-section. Each respondent is assigned a HHID of 090123 and a SUBHH of 0. One respondent has a PN of 010, the other a PN of 020.

By the time of the second cross-section, the couple has divorced. She has moved in with her mother. He has married a woman with two children. At the second cross-section, both original respondents retain the HHID of 090123, but he is assigned a SUBHH of 1 and she is assigned a SUBHH of 2. Each original respondent retains his and her PN of 010 and 020, respectively. His new spouse and new stepchildren are assigned the HHID of 090123 and the SUBHH of 1. His new spouse is assigned a PN of 011. His new stepchildren are assigned OPNs of 151 and 152. Her mother is assigned the HHID of 090123 and the SUBHH of 2 and an OPN of 151.

Time 1
Household records  
HHID=090123 ASUBHH=0
Respondent records  
HHID=090123 PN=010 ASUBHH=0 
HHID=090123 PN=020 ASUBHH=0

Time 2
Household records  
HHID=090123 CSUBHH=1
HHID=090123 CSUBHH=2
Respondent records  
HHID=090123 PN=010 CSUBHH=1 
HHID=090123 PN=011 CSUBHH=1 (new wife) 
HHID=090123 PN=020 CSUBHH=2
Household member/child records  
HHID=090123 CSUBHH=1 OPN=151 (his stepchild) 
HHID=090123 CSUBHH=1 OPN=152 (his stepchild) 
HHID=090123 CSUBHH=2 OPN=151 (her mom)

B. Master Codes

Included in this file are the "Master Codes" for HRS. Other areas of the codebook often refer to these lists, as they are too long to replicate at each variable that uses the codes.

The Master Codes in order of appearance are:
- B1. Health Conditions - Categorical
- B2. Occupation Codes
- B3. State and Country Codes

B1. Health Conditions - Categorical

NOTE: If necessary, use individual "Other" categories if system or type of condition is clear; otherwise, code 997.

Cancers and tumors; skin conditions
101. Cancer--any site or type; leukemia; Hodgkin's disease; melanomas; non-Hodgkin’s lymphoma; tumors if specified as malignant; lymphoma; metastasis angiosarcoma; carcinoma; myeloma/multiple myeloma; myelodysplastic syndrome
102. Tumors, cysts or growths (except 101); polyps; osteomyelitis; pre-cancer; neroma; benign tumors; mole removal; warts; subdural hygroma
103. Skin conditions--any mention except cancer (101) or tumor (102); dermatitis; eczema; rashes; Paget’s disease; skin ulcers; bedsores; bullous pemphigoid; hair loss; pemphigus; seborrheic keratosis; rosacea; alopecia; psoriasis; burns (also use code 194 if available)

Musculoskeletal system and connective tissue
111. Arthritis; rheumatism; bursitis; ankylosing spondylitis; Reiter’s syndrome; rheumatica; osteoarthritis
112. Back/neck/spine problems: chronic stiffness, deformity or pain; disc problems; scoliosis; spina bifida; bad back; spinal stenosis; back/neck injuries (also use code 194 if available); back/neck sprain (also use code 194 if available)
113. Stiffness, deformity, numbness or chronic pain in foot, leg, arm or hand, shoulder or rotator cuff; bad knee/hip problems; hip/knee replacement; plantar fasciitis; drop foot; leg cramps; tennis elbow; Dupuytren’s contracture; sprain of limb (also use code 194 if available)
114. Missing legs, feet, arms, hands, or fingers (from amputation or congenital deformity)
115. Paralysis--any mention (including from polio)
116. Hernias; hiatal hernia; rectocele; cystocele
117. Muscular dystrophy; mitochondrial myopathy
118. Fibromyalgia; fibro myositis; fibrositis; myofascial pain syndrome
119. Other musculoskeletal or connective tissue problems; lupus; osteoporosis; pinched nerve (location not specified); sciatica/sciatic nerve problem; carpal tunnel syndrome; costochondritis; polymyositis; scleroderma; chromosome leak into the muscles; bone spurs (location not specified); cellulitis; tendonitis (location not specified); temporomandibular joint syndrome (TMJ); trigeminal neuralgia; CREST syndrome/limited scleroderma; polymyalgia/polymyalgia rheumatica; avascular necrosis/osteonecrosis, neural muscular myositis, bone disease, myalgia, myositis, osteopenia; adhesions (location not specified); neuritis; skull bone injuries (also use code 194 if available); vascular necrosis; broken or damaged bones (location not specified) from injuries/accidents (also use code 194 if available); pulled muscle (location not specified - also use code 194 if available); strain (location not specified - also use code 194 if available); tendin damage (location not specified - also use code 194 if available); sprain (location not specified - also use code 194 if available); post-polio syndrome (without mention of paralysis); loss of calcium

Heart, circulatory and blood conditions
121. Heart problems: heart attack (coronary) or failure; arteriosclerosis; heart aneurysms; heart deformities/congenital heart deformities; angina; bad heart; congestive heart disease; cardiomyopathy; atrial fibrillation; myocardial infarction (MI); multiple infarction; myocardinitus, endocarditis; myocardial ischemia; heart murmurs; heart valve blockage; heart valve prolapse; heart valve replacement; arterial blockage; hardening of arteries; heart bypass surgery; mitral valve prolapse; myocardial ischemia; rheumatic heart disease
122. High blood pressure / hypertension (HTN); uncontrollable blood pressure; blood pressure problems, not specified high or low
123. Stroke; cerebral hemorrhage or accident; hematoma (if related to brain); transient ischemic attack (TIA);
124. Blood disorders: blood disease, anemia; aplastic anemia; hypoplastic anemia; hemophilia; polycythemia vera; bad blood; toxemia; cold agglutinin disease; triglycerides or high triglycerides; toxoplasmosis; blood
transfusion; sickle cell trait; bone marrow failure; factor VIII/factor VIII deficiency/elevated factor VIII; thrombocytopenia; hemochromatosis.

129. Other circulatory problems; phlebitis, clots/blood clots, embolisms; varicose veins; hemorrhoids; low blood pressure; giant cell arteritis; hematoma (if not related to brain or location not specified); gangrene; vascular disease; pulmonary thrombosis; pulmonary embolism; Raynaud’s disease; APLS Hughes syndrome; aneurysm (when not in heart or location not specified); elasticity of arteries; calcification of limbs; lymphedema; claudication, pulmonary hypertension; rheumatic fever; occult cerebral vascular malformation; bleeding (location not specified); blockage in lung; Rendu-Osler-Weber disease/syndrome

**Respiratory system conditions**

131. Allergies; hay fever; sinusitis; sinus problems; sinus headaches; tonsillitis; celiac disease/sprue (gluten intolerance); hives

132. Asthma

133. Bronchitis; pneumonia; acute upper respiratory problems; Legionnaire’s disease; fungus in chest; respiratory pulmonary disease

134. Emphysema; chronic obstructive pulmonary disease (COPD); smoking related lung problems

139. Other respiratory/breathing problems; tuberculosis; sarcoidosis; ventilatory insufficiency; pulmonary idiopathic fibrosis; respiratory failure, NFS; asbestos in lungs; black lung; pleurisy

**Endocrine, metabolic and nutritional conditions**

141. Diabetes; pre-diabetic; high blood sugar

142. Thyroid trouble; goiter; hyperthyroidism; Graves’s disease; Hashimoto’s disease

143. Cystic fibrosis

144. Nutritional problems; weight problems; eating disorders; high cholesterol; hypercholesterolemia; obesity; iron deficiency; overweight; vitamin deficiency

145. Sugar problems, NFS; erratic blood sugar

149. Other endocrine/metabolic problems; pancreatitis; pituitary problems; gland problems; Addison’s disease; gout, nephrotic syndrome; primary adrenal insufficient; parathyroid problems; endocrinology syndrome; amyloidosis; haemochromatosis; hypoglycemia; low blood sugar; loss of calcium; alpha-1 antitrypsin deficiency; acromegaly; hormone problems; hyperpituitarism; hypoglycemia

**Digestive system (stomach, liver, gallbladder, kidney, bladder)**

151. Stomach and intestinal conditions: acid reflux, reflux disease, heartburn, stomach reflux, GERD, Barrett’s esophagus, ulcers (stomach, peptic, duodenal or not further specified); colitis; ulcerative colitis; gastritis; diverticulosis; diverticulitis; appendicitis; Crohn’s disease; intestinal adhesions; abdominal adhesions; colostomy; silicate’s disease; stomach pains, ileostomy, dumping syndrome; gastroenteritis, Irritable Bowel Syndrome; diarrhea; bowel incontinence; appendectomy; enteritis; ileitis; peritonitis; stomach removal

152. Liver conditions: cirrhosis; hepatitis; benign hepatic hypertrophy; encephalopathy (caused by liver problems or cause not specified); jaundice

153. Kidney conditions: kidney stones; kidney failure (including dialysis); nephritis

154. Gallbladder conditions; blockage of bile ducts; gallstones; gallbladder removal

155. Bladder conditions (except 156); urinary infections; interstitial cystitis, urosepsis
156. Urinary incontinence; urinary loss/leakage; problems with bladder control
157. Spleen conditions; enlarged spleen
159. Other digestive system problems; internal bleeding; hemorrhage; esophagus torn, ruptured or bleeding; swallowing difficulty; feeding tube

**Neurological and sensory conditions**

161. Blindness or vision problems: glaucoma; cataracts; detached/torn retina; macular degeneration; uveitis; ocular myasthenia gravis; conjunctivitis; eye conditions, NFS
162. Deafness; hearing loss or other ear conditions; tinnitus; vestibular disorder; Meniere’s disease
163. Multiple sclerosis; cerebral palsy; epilepsy; Parkinson's; amyotrophic lateral sclerosis (ALS) or Lou Gehrig’s disease); seizures; neuropathy; peripheral neuropathy
164. Speech conditions--any mention; congenital speech defects; stuttering; laryngeotomy; speech impediment
165. Mental retardation; mental impairment; learning disabilities; Down syndrome; dyslexia
169. Other neurological/sensory problems; headaches; migraines; dizziness; blackouts; brain damage, NFS (also use code 194 if available); meningitis; arachnoiditis; Bell’s palsy; Charcot-Marie-Tooth disease; Guillain-Barre syndrome; medial nerve palsy; myasthenia gravis/myasthenia (non-ocular); myokymia; reflex sympathetic dystrophy (RSD); restless legs syndrome (RLS); Sjogren’s syndrome; spasmodic torticollis; balance problems; closed head injury; coma; paralyzed diaphragm; facial neuralgia; hydrocephalus; inclusive body myositis; spinal cerebella ataxia; benign/familiar tremors, vertigo; upper motor neuron/motoneuron problems, progressive supranuclear palsy (PSP); thoracic outlet syndrome; dysautonomia; shaky hands; spinal cord damage from injuries/accident (also use code 194 if available)

**Reproductive system and prostate conditions**

171. Pregnancy and childbirth problems; miscarriage; hemorrhaging or complications from birth of child; episiotomy; Rh factor
172. Infertility; sterilization; vasectomy; tubal ligation
173. Prostate conditions; PSA/high PSA
179. Other problems of reproductive system; hysterectomy; ovarian problems; PMS; menopause; dysmenorrhea; endometriosis; painful menstrual periods; female problems; gynecological problems, NFS; removal of reproductive organs (excluding cancer and tumors)

**Emotional and psychological conditions**

181. Alcoholism
182. Drug abuse/addiction/dependence
183. Other severe psychological conditions: (chronic) depression; schizophrenia; mania; paranoia; autism; psychosis; agoraphobia; bipolar disorder (manic-depression); post-traumatic stress disorder (PTSD)
189. Other emotional and psychological problems; mental problems, NFS; nerves; nervous breakdown; stress; stress related problems; night wandering; panic attacks; anxiety; behavioral problems; insomnia; attention deficit disorder (ADD)

**Miscellaneous**

191. Alzheimer's disease; senility, dementia; multi-infarct dementia; memory loss; mixed cognitive disease
192. Dental and gum conditions--any mention
193. Acute infectious diseases; flu; colds; fever; mumps; Dengue fever; Lyme disease; infection, staph infection; methicillin-resistant staphylococcus
aureus (MRSA); Epstein-Barr virus; mononucleosis; influenza; measles; rubella; strep throat; virus, NFS; septic shock; toxic shock; sepsis; shingles; polio (without mention of paralysis)

194. Injuries and traumas: broken bones; fractures; pulled muscles; strains; tendon damage; burns, lacerations; concussion; side effects/conditions due to surgery, side effects due to medication; graft-versus host disease LOW PRIORITY--code resulting chronic or ongoing conditions if possible

195. Sleep disorders; sleep apnea; narcolepsy; cataplexy

196. Immune system disorders; human immunodeficiency virus (HIV) positive; acquired immunodeficiency syndrome (AIDS); AIDS related complex (ARC)

**Cause of death**

601. Suicide
602. Murder
603. Killed in war/combat
604. Motor vehicle accident - incl. as pedestrian
605. Industrial/work related accident
606. Sporting accident
607. Other accidental death; accidental death - NA type of accident
608. Still born; died at birth or infancy - NFS

**Why Admitted**

701. No other care arrangements available
702. Deteriorating health; health condition not specified
703. To recover/rehab; for injury/surgery

**Other symptoms**

595. Old age; everything wore out; bedridden; infirmity; natural causes; failure to thrive in older adults
596. Lack of energy/strength; (chronic) fatigue, NFS; don’t have get up and go
597. Edema; retaining water; retaining fluids; swelling (location not specified)

996. None, no health condition(s) mentioned
997. Other health condition
998. DK (Don't Know); NA (Not Ascertained)
999. RF (Refused)

**B2. Occupation Codes**

Equivalent numeric codes follow the alphabetic codes. Either code may be used, depending on the processing method. The abbreviation "pt" means "part" and "n.e.c." means "not elsewhere classified."

**MGR Management Occupations**

001. Chief Executives
002. General and Operations Managers
003. Legislators
004. Advertising and Promotions Managers
005. Marketing and Sales Managers
006. Public Relations Managers
010. Administrative Services Managers
011. Computer and Information Systems Managers
012. Financial Managers
013. Human Resources Managers
014. Industrial Production Managers
015. Purchasing Managers
016. Transportation, Storage, and Distribution Managers
020. Farm, Ranch, and Other Agricultural Managers
021. Farmers and Ranchers
022. Constructions Managers
023. Education Administrators
030. Engineering Managers
031. Food Service Managers
032. Funeral Directors
033. Gaming Managers
034. Lodging Managers
035. Medical and Health Services Managers
036. Natural Science Managers
040. Postmasters and Mail Superintendents
041. Property, Real Estate, and Community Association Managers
042. Social and Community Service Managers
043. Managers, All Other

BUS Business Operations Specialists
050. Agents and Business Managers of Artists, Performers, and Athletes
051. Purchasing Agents and Buyers, Farm Products
052. Wholesale and Retail Buyers, Except Farm Products
053. Purchasing Agents, Except Wholesale, Retail, and Farm Products
054. Claims Adjusters, Appraisers, Examiners, and Investigators
056. Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
060. Cost Estimators
062. Human Resources, Training, and Labor Relations Specialists
070. Logisticians
071. Management Analysts
072. Meeting and Convention Planners
073. Other Business Operations Specialists

FIN Financial Specialists
080. Accountants and Auditors
081. Appraisers and Assessors of Real Estate
082. Budget Analysts
083. Credit Analysts
084. Financial Analysts
085. Personal Financial Advisors
086. Insurance Underwriters
090. Financial Examiners
091. Loan Counselors and Officers
093. Tax Examiners, Collectors, and Revenue Agents
094. Tax Preparers
095. Financial Specialists, All Other

CMM Computer and Mathematical Occupations
100. Computer Scientists and Systems Analysts
101. Computer Programmers
102. Computer Software Engineers
104. Computer Support Specialists
106. Database Administrators
110. Network and Computer Systems Administrators
111. Network Systems and Data Communications Analysts
120. Actuaries
121. Mathematicians
122. Operations Research Analysts
123. Statisticians
124. Miscellaneous Mathematical Scientists and Technicians

**ENG Architecture and Engineering Occupations**
130. Architects, Except Naval
131. Surveyors, Cartographers, and Photogrammetrists
132. Aerospace Engineers
133. Agricultural Engineers
134. Biomedical Engineers
135. Chemical Engineers
136. Civil Engineers
140. Computer Hardware Engineers
141. Electrical and Electronics Engineers
142. Environmental Engineers
143. Industrial Engineers, including Health and Safety
144. Marine Engineers and Naval Architects
145. Materials Engineers
146. Mechanical Engineers
150. Mining and Geological Engineers, Including Mining Safety Engineers
151. Nuclear Engineers
152. Petroleum Engineers
153. Engineers, All Other
154. Drafters
155. Engineering Technicians, Except Drafters
156. Surveying and Mapping Technicians

**SCI Life, Physical, and Social Science Occupations**
160. Agricultural and Food Scientists
161. Biological Scientists
164. Conservation Scientists and Foresters
165. Medical Scientists
170. Astronomers and Physicists
171. Atmospheric and Space Scientists
172. Chemists and Materials Scientists
174. Environmental Scientists and Geoscientists
176. Physical Scientists, All Other
180. Economists
181. Market and Survey Researchers
182. Psychologists
183. Sociologists
184. Urban and Regional Planners
186. Miscellaneous Social Scientists and Related Workers
190. Agricultural and Food Science Technicians
191. Biological Technicians
192. Chemical Technicians
193. Geological and Petroleum Technicians
194. Nuclear Technicians
196. Other Life, Physical, and Social Science Technicians

**CMS Community and Social Services Occupations**
200. Counselors
201. Social Workers
202. Miscellaneous Community and Social Service Specialists
204. Clergy
205. Directors, Religious Activities and Education
206. Religious Workers, All Other

**Legal Occupations**

210. Lawyers
211. Judges, Magistrates, and Other Judicial Workers
214. Paralegals and Legal Assistants
215. Miscellaneous Legal Support Workers

**Education, Training, and Library Occupations**

220. Postsecondary Teachers
230. Preschool and Kindergarten Teachers
231. Elementary and Middle School Teachers
232. Secondary School Teachers
233. Special Education Teachers
234. Other Teachers and Instructors
240. Archivists, Curators, and Museum Technicians
243. Librarians
244. Library Technicians
254. Teacher Assistants
255. Other Education, Training, and Library Workers

**Arts, Design, Entertainment, Sports, and Media Occupations**

260. Artists and Related Workers
263. Designers
270. Actors
271. Producers and Directors
272. Athletes, Coaches, Umpires, and Related Workers
274. Dancers and Choreographers
275. Musicians, Singers, and Related Workers
276. Entertainers and Performers, Sports and Related Workers, All Other
280. Announcers
281. News Analysts, Reporters and Correspondents
282. Public Relations Specialists
283. Editors
284. Technical Writers
285. Writers and Authors
286. Miscellaneous Media and Communication Workers
290. Broadcast and Sound Engineering Technicians and Radio Operators
291. Photographers
292. Television, Video, and Motion Picture Camera Operators and Editors
296. Media and Communication Equipment Workers, All Other

**Healthcare Practitioners and Technical Occupations**

300. Chiropractors
301. Dentists
303. Dietitians and Nutritionists
304. Optometrists
305. Pharmacists
306. Physicians and Surgeons
311. Physician Assistants
312. Podiatrists
313. Registered Nurses
314. Audiologists
315. Occupational Therapists
316. Physical Therapists
320. Radiation Therapists
321. Recreational Therapists
322. Respiratory Therapists
323. Speech-Language Pathologists
324. Therapists, All Other
325. Veterinarians
326. Health Diagnosing and Treating Practitioners, All Other
330. Clinical Laboratory Technologists and Technicians
331. Dental Hygienists
332. Diagnostic Related Technologists and Technicians
340. Emergency Medical Technicians and Paramedics
341. Health Diagnosing and Treating Practitioner Support Technicians
350. Licensed Practical and Licensed Vocational Nurses
351. Medical Records and Health Information Technicians
352. Opticians, Dispensing
353. Miscellaneous Health Technologists and Technicians
354. Other Healthcare Practitioners and Technical Occupations

**HLS Healthcare Support Occupations**
360. Nursing, Psychiatric, and Home Health Aides
361. Occupational Therapist Assistants and Aides
362. Physical Therapist Assistants and Aides
363. Massage Therapists
364. Dental Assistants
365. Medical Assistants and Other Healthcare Support Occupations

**PRT Protective Service Occupations**
370. First-Line Supervisors/Managers of Correctional Officers
371. First-Line Supervisors/Managers of Police and Detectives
372. First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
373. Supervisors, Protective Service Workers, All Other
374. Fire Fighters
375. Fire Inspectors
380. Bailiffs, Correctional Officers, and Jailers
382. Detectives and Criminal Investigators
383. Fish and Game Wardens
384. Parking Enforcement Workers
385. Police and Sheriff's Patrol Officers
386. Transit and Railroad Police
390. Animal Control Workers
391. Private Detectives and Investigators
392. Security Guards and Gaming Surveillance Officers
394. Crossing Guards
395. Lifeguards and Other Protective Service Workers

**EAT Food Preparation and Serving Occupations**
400. Chefs and Head Cooks
401. First-Line Supervisors/Managers of Food Preparation and Serving Workers
402. Cooks
403. Food Preparation Workers
404. Bartenders
405. Combined Food Preparation and Serving Workers, Including Fast Food
411. Waiters and Waitresses
412. Food Servers, Non-restaurant
413. Dining Room and Cafeteria Attendants and Bartender Helpers
414. Dishwashers
415. Host and Hostesses, Restaurant, Lounge, and Coffee Shop
416. Food Preparation and Serving Related Workers, All Other

**CLN Building and Grounds Cleaning and Maintenance Occupations**
420. First-Line Supervisors/Managers of Housekeeping and Janitorial Workers
421. First-Line Supervisors/Managers of Landscaping, Lawn Service, and Grounds Keeping Workers
422. Janitors and Building Cleaners
423. Maids and Housekeeping Cleaners
424. Pest Control Workers
425. Grounds Maintenance Workers

**PRS Personal Care and Service Occupations**
430. First-Line Supervisors/Managers of Gaming Workers
432. First-Line Supervisors/Managers of Personal Service Workers
434. Animal Trainers
435. Nonfarm Animal Caretakers
440. Gaming Services Workers
441. Motion Picture Projectionists
442. Ushers, Lobby Attendants, and Ticket Takers
443. Miscellaneous Entertainment Attendants and Related Workers
446. Funeral Service Workers
450. Barbers
451. Hairdressers, Hairstylists, and Cosmetologists
452. Miscellaneous Personal Appearance Workers
453. Baggage Porters, Bellhops, and Concierges
454. Tour and Travel Guides
455. Transportation Attendants
460. Child Care Workers
461. Personal and Home Care Aides
462. Recreation and Fitness Workers
464. Residential Advisors
465. Personal Care and Service Workers, All Other

**SAL Sales Occupations**
470. First-Line Supervisors/Managers of Retail Sales Workers
471. First-Line Supervisors/Managers of Non-Retail Sales
472. Cashiers
474. Counter and Rental Clerks
475. Parts Salespersons
476. Retail Salespersons
480. Advertising Sales Agents
481. Insurance Sales Agents
482. Securities, Commodities, and Financial Services Sales Agents
483. Travel Agents
484. Sales Representatives, Services, All Other
485. Sales Representatives, Wholesale and Manufacturing
490. Models, Demonstrators, and Product Promoters
492. Real Estate Brokers and Sales Agents
493. Sales Engineers
494. Telemarketers
495. Door-to-Door Sales Workers, News and Street Vendors, and Related Workers
496. Sales and Related Workers, All Other

**OFF Office and Administrative Support Occupations**
<table>
<thead>
<tr>
<th>Classification</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.</td>
<td>First-Line Supervisors/Managers of Office and Administrative Support Workers</td>
</tr>
<tr>
<td>501.</td>
<td>Switchboard Operators, Including Answering Service</td>
</tr>
<tr>
<td>502.</td>
<td>Telephone Operators</td>
</tr>
<tr>
<td>503.</td>
<td>Communications Equipment Operators, All Other</td>
</tr>
<tr>
<td>510.</td>
<td>Bill and Account Collectors</td>
</tr>
<tr>
<td>511.</td>
<td>Billing and Posting Clerks and Machine Operators</td>
</tr>
<tr>
<td>512.</td>
<td>Bookkeeping, Accounting, and Auditing Clerks</td>
</tr>
<tr>
<td>513.</td>
<td>Gaming Cage Workers</td>
</tr>
<tr>
<td>514.</td>
<td>Payroll and Timekeeping Clerks</td>
</tr>
<tr>
<td>515.</td>
<td>Procurement Clerks</td>
</tr>
<tr>
<td>516.</td>
<td>Tellers</td>
</tr>
<tr>
<td>520.</td>
<td>Brokerage Clerks</td>
</tr>
<tr>
<td>521.</td>
<td>Correspondence Clerks</td>
</tr>
<tr>
<td>522.</td>
<td>Court, Municipal, and License Clerks</td>
</tr>
<tr>
<td>523.</td>
<td>Credit Authorizers, Checkers, and Clerks</td>
</tr>
<tr>
<td>524.</td>
<td>Customer Service Representatives</td>
</tr>
<tr>
<td>525.</td>
<td>Eligibility Interviewers, Government Programs</td>
</tr>
<tr>
<td>526.</td>
<td>File Clerks</td>
</tr>
<tr>
<td>530.</td>
<td>Hotel, Motel, and Resort Desk Clerks</td>
</tr>
<tr>
<td>531.</td>
<td>Interviewers, Except Eligibility and Loan</td>
</tr>
<tr>
<td>532.</td>
<td>Library Assistants, Clerical</td>
</tr>
<tr>
<td>533.</td>
<td>Loan Interviewers and Clerks</td>
</tr>
<tr>
<td>534.</td>
<td>New Account Clerks</td>
</tr>
<tr>
<td>535.</td>
<td>Order Clerks</td>
</tr>
<tr>
<td>536.</td>
<td>Human Resources Assistants, Except Payroll and Timekeeping</td>
</tr>
<tr>
<td>540.</td>
<td>Receptionists and Information Clerks</td>
</tr>
<tr>
<td>541.</td>
<td>Reservation and Transportation Ticket Agents and Travel Clerks</td>
</tr>
<tr>
<td>542.</td>
<td>Information and Record Clerks, All Other</td>
</tr>
<tr>
<td>550.</td>
<td>Cargo and Freight Agents</td>
</tr>
<tr>
<td>551.</td>
<td>Couriers and Messengers</td>
</tr>
<tr>
<td>552.</td>
<td>Dispatchers</td>
</tr>
<tr>
<td>553.</td>
<td>Meter Readers, Utilities</td>
</tr>
<tr>
<td>554.</td>
<td>Postal Service Clerks</td>
</tr>
<tr>
<td>555.</td>
<td>Postal Service Mail Carriers</td>
</tr>
<tr>
<td>556.</td>
<td>Postal Service Mail Sorters, Processors, and Processing Machine Operators</td>
</tr>
<tr>
<td>560.</td>
<td>Production, Planning, and Expediting Clerks</td>
</tr>
<tr>
<td>561.</td>
<td>Shipping, Receiving, and Traffic Clerks</td>
</tr>
<tr>
<td>562.</td>
<td>Stock Clerks and Order Fillers</td>
</tr>
<tr>
<td>563.</td>
<td>Weighers, Measurers, Checkers, and Samplers, Recordkeeping</td>
</tr>
<tr>
<td>570.</td>
<td>Secretaries and Administrative Assistants</td>
</tr>
<tr>
<td>580.</td>
<td>Computer Operators</td>
</tr>
<tr>
<td>581.</td>
<td>Data Entry Keyers</td>
</tr>
<tr>
<td>582.</td>
<td>Word Processors and Typists</td>
</tr>
<tr>
<td>583.</td>
<td>Desktop Publishers</td>
</tr>
<tr>
<td>584.</td>
<td>Insurance Claims and Policy Processing Clerks</td>
</tr>
<tr>
<td>585.</td>
<td>Mail Clerks and Mail Machine Operators, Except Postal Service</td>
</tr>
<tr>
<td>586.</td>
<td>Office Clerks, General</td>
</tr>
<tr>
<td>590.</td>
<td>Office Machine Operators, Except Computer</td>
</tr>
<tr>
<td>591.</td>
<td>Proofreaders and Copy Markers</td>
</tr>
<tr>
<td>592.</td>
<td>Statistical Assistants</td>
</tr>
<tr>
<td>593.</td>
<td>Office and Administrative Support Workers, All Other</td>
</tr>
</tbody>
</table>

**FFF Farming, Fishing, and Forestry Occupations**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.</td>
<td>First-Line Supervisors/Managers/Contractors of Farming, Fishing, and Forestry Workers</td>
</tr>
<tr>
<td>601.</td>
<td>Agricultural Inspectors</td>
</tr>
</tbody>
</table>
602. Animal Breeders
604. Graders and Sorters, Agricultural Products
605. Other Agricultural Workers
610. Fishers and Related Fishing Workers
611. Hunters and Trappers
612. Forest and Conservation Workers
613. Logging Worker

CON Construction Trades
620. First-Line Supervisors/Managers of Construction Trades and Extraction Workers
621. Boilermakers
622. Brickmasons, Blockmasons, and Stonemasons
623. Carpenters
624. Carpet, Floor, and Tile Installers and Finishers
625. Cement Masons, Concrete Finishers, and Terrazzo Workers
626. Construction Laborers
630. Paving, Surfacing, and Tamping Equipment Operators
631. Pile-Driven Operators
632. Operating Engineers and Other Construction Equipment Operators
633. Drywall Installers, Ceiling Tile Installers, and Tapers
634. Electricians
636. Glaziers
640. Insulation Workers
642. Painters, Construction and Maintenance
643. Paperhangers
644. Pipelayers, Plumbers, Pipefitters, and Steamfitters
646. Plasterers and Stucco Masons
650. Reinforcing Iron and Rebar Workers
651. Roofers
652. Sheet Metal Workers
653. Structural Iron and Steel Workers
660. Helpers, Construction Trades
666. Construction and Building Inspectors
670. Elevator Installers and Repairers
671. Fence Erectors
672. Hazardous Materials Removal Workers
673. Highway Maintenance Workers
674. Rail-Track Laying and Maintenance Equipment Operators
675. Septic Tank Servicers and Sewer Pipe Cleaners
676. Miscellaneous Construction and Related Workers

EXT Extraction Workers
680. Derrick, Rotary Drill, and Service Unit Operators, Oil, Gas, and Mining
682. Earth Drillers, Except Oil and Gas
683. Explosives Workers, Ordnance Handling Experts, and Blasters
684. Mining Machine Operators
691. Roof Bolters, Mining
692. Roustabouts, Oil and Gas
693. Helpers--Extraction Workers
694. Other Extraction Workers

RPR Installation, Maintenance, and Repair Workers
700. First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
701. Computer, Automated Teller, and Office Machine Repairers
702. Radio and Telecommunications Equipment Installers and Repairers
703. Avionics Technicians
704. Electric Motor, Power Tool, and Related Repairers
705. Electrical and Electronics Installers and Repairers, Transportation Equipment
710. Electrical and Electronics Repairers, Industrial and Utility
711. Electronic Equipment Installers and Repairers, Motor Vehicles
712. Electronic Home Entertainment Equipment Installers and Repairers
713. Security and Fire Alarm Systems Installers
714. Aircraft Mechanics and Service Technicians
715. Automotive Body and Related Repairers
716. Automotive Glass Installers and Repairers
720. Automotive Service Technicians and Mechanics
721. Bus and Truck Mechanics and Diesel Engine Specialists
722. Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
724. Small Engine Mechanics
726. Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
730. Control and Valve Installers and Repairers
731. Heating, Air Conditioning, and Refrigeration Mechanics and Installers
732. Home Appliance Repairers
733. Industrial and Refractory Machinery Mechanics
734. Maintenance and Repair Workers, General
735. Maintenance Workers, Machinery
736. Millwrights
741. Electrical Power-Line Installers and Repairers
742. Telecommunications Line Installers and Repairers
743. Precision Instrument and Equipment Repairers
751. Coin, Vending, and Amusement Machine Servicers and Repairers
752. Commercial Divers
754. Locksmiths and Safe Repairers
756. Riggers
760. Signal and Track Switch Repairers
761. Helpers--Installation, Maintenance, and Repair Workers
762. Other Installation, Maintenance, and Repair Workers

**PRD Production Occupations**
770. First-Line Supervisors/Managers of Production and Operating Workers
771. Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
772. Electrical, Electronics, and Electromechanical Assemblers
773. Engine and Other Machine Assemblers
774. Structural Metal Fabricators and Fitters
775. Miscellaneous Assemblers and Fabricators
780. Bakers
781. Butchers and Other Meat, Poultry, and Fish Processing Workers
783. Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
784. Food Batchmakers
785. Food Cooking Machine Operators and Tenders
790. Computer Control Programmers and Operators
792. Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
793. Forging Machine Setters, Operators, and Tenders, Metal and Plastic
796. Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
800. Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
801. Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
802. Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
803. Machinists
804. Metal Furnace and Kiln Operators and Tenders
805. Model Makers and Patternmakers, Metal and Plastic
810. Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic
812. Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
813. Tool and Die Makers
814. Welding, Soldering, and Brazing Workers
816. Lay-Out Workers, Metal and Plastic
820. Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
821. Tool Grinders, Filers, and Sharpeners
822. Metalworkers and Plastic Workers, All Other
823. Bookbinders and Bindery Workers
824. Job Printers
825. Prepress Technicians and Workers
826. Printing Machine Operators
830. Laundry and Dry-Cleaning Workers
831. Pressers, Textile, Garment, and Related Materials
832. Sewing Machine Operators
833. Shoe and Leather Workers and Repairers
834. Shoe Machine Operators and Tenders
835. Tailors, Dressmakers, and Sewers
836. Textile Bleaching and Dyeing Machine Operators and Tenders
840. Textile Cutting Machine Setters, Operators, and Tenders
841. Textile Knitting and Weaving Machine Setters, Operators, and Tenders
844. Fabric and Apparel Patternmakers
845. Upholsterers
846. Textile, Apparel, and Furnishings Workers, All Other
850. Cabinetmakers and Bench Carpenters
851. Furniture Finishers
852. Model Makers and Patternmakers, Wood
854. Woodworking Machine Setters, Operators, and Tenders, Except Sawing
855. Woodworkers, All Other
860. Power Plant Operators, Distributors, and Dispatchers
861. Stationary Engineers and Boiler Operators
862. Water and Liquid Waste Treatment Plant and System Operators
863. Miscellaneous Plant and System Operators
864. Chemical Processing Machine Setters, Operators, and Tenders
865. Crushing, Grinding, Polishing, Mixing, and Blending Workers
871. Cutting Workers
872. Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders
873. Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
874. Inspectors, Testers, Sorters, Samplers, and Weighers
<table>
<thead>
<tr>
<th>Code</th>
<th>Occupation Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>875</td>
<td>Jewelers and Precious Stone and Metal Workers</td>
</tr>
<tr>
<td>876</td>
<td>Medical, Dental, and Ophthalmic Laboratory Technicians</td>
</tr>
<tr>
<td>880</td>
<td>Packaging and Filling Machine Operators and Tenders</td>
</tr>
<tr>
<td>881</td>
<td>Painting Workers</td>
</tr>
<tr>
<td>883</td>
<td>Photographic Process Workers and Processing Machine Operators</td>
</tr>
<tr>
<td>884</td>
<td>Cementing and Gluing Machine Operators and Tenders</td>
</tr>
<tr>
<td>885</td>
<td>Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders</td>
</tr>
<tr>
<td>886</td>
<td>Etchers and Engravers</td>
</tr>
<tr>
<td>887</td>
<td>Molders, Shapers, and Casters, Except Metal and Plastic</td>
</tr>
<tr>
<td>889</td>
<td>Tire Builders</td>
</tr>
<tr>
<td>890</td>
<td>Helpers--Production Workers</td>
</tr>
<tr>
<td>896</td>
<td>Production Workers, All Other</td>
</tr>
</tbody>
</table>

**TRN Transportation and Material Moving Occupations**

<table>
<thead>
<tr>
<th>Code</th>
<th>Occupation Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>Supervisors, Transportation and Material Moving Workers</td>
</tr>
<tr>
<td>903</td>
<td>Aircraft Pilots and Flight Engineers</td>
</tr>
<tr>
<td>904</td>
<td>Air Traffic Controllers and Airfield Operations Specialists</td>
</tr>
<tr>
<td>911</td>
<td>Ambulance Drivers and Attendants, Except Emergency Medical Technicians</td>
</tr>
<tr>
<td>912</td>
<td>Bus Drivers</td>
</tr>
<tr>
<td>913</td>
<td>Driver/Sales Workers and Truck Drivers</td>
</tr>
<tr>
<td>914</td>
<td>Taxi Drivers and Chauffeurs</td>
</tr>
<tr>
<td>920</td>
<td>Locomotive Engineers and Operators</td>
</tr>
<tr>
<td>923</td>
<td>Railroad Brake, Signal, and Switch Operators</td>
</tr>
<tr>
<td>924</td>
<td>Railroad Conductors and Yardmasters</td>
</tr>
<tr>
<td>926</td>
<td>Subway, Streetcar, and Other Rail Transportation Workers</td>
</tr>
<tr>
<td>930</td>
<td>Sailors and Marine Oilers</td>
</tr>
<tr>
<td>931</td>
<td>Ship and Boat Captains and Operators</td>
</tr>
<tr>
<td>933</td>
<td>Ship Engineers</td>
</tr>
<tr>
<td>934</td>
<td>Bridge and Lock Tenders</td>
</tr>
<tr>
<td>935</td>
<td>Parking Lot Attendants</td>
</tr>
<tr>
<td>936</td>
<td>Service Station Attendants</td>
</tr>
<tr>
<td>941</td>
<td>Transportation Inspectors</td>
</tr>
<tr>
<td>942</td>
<td>Other Transportation Workers</td>
</tr>
<tr>
<td>950</td>
<td>Conveyor Operators and Tenders</td>
</tr>
<tr>
<td>951</td>
<td>Crane and Tower Operators</td>
</tr>
<tr>
<td>952</td>
<td>Dredge, Excavating, and Loading Machine Operators</td>
</tr>
<tr>
<td>956</td>
<td>Hoist and Winch Operators</td>
</tr>
<tr>
<td>960</td>
<td>Industrial Truck and Tractor Operators</td>
</tr>
<tr>
<td>961</td>
<td>Cleaners of Vehicles and Equipment</td>
</tr>
<tr>
<td>962</td>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
</tr>
<tr>
<td>963</td>
<td>Machine Feeders and Off Bearers</td>
</tr>
<tr>
<td>964</td>
<td>Packers and Packagers, Hand</td>
</tr>
<tr>
<td>965</td>
<td>Pumping Station Operators</td>
</tr>
<tr>
<td>972</td>
<td>Refuse and Recyclable Material Collectors</td>
</tr>
<tr>
<td>973</td>
<td>Shuttle Car Operators</td>
</tr>
<tr>
<td>974</td>
<td>Tank Car, Truck, and Ship Loaders</td>
</tr>
<tr>
<td>975</td>
<td>Material Moving Workers, All Other</td>
</tr>
</tbody>
</table>

**MIL Military Specific Occupations**

<table>
<thead>
<tr>
<th>Code</th>
<th>Occupation Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>980</td>
<td>Military Officer Special and Tactical Operations Leaders/Managers</td>
</tr>
<tr>
<td>981</td>
<td>First-Line Enlisted Military Supervisors/Managers</td>
</tr>
<tr>
<td>982</td>
<td>Military Enlisted Tactical Ops and Air/Weapons Specialists and Crew members</td>
</tr>
<tr>
<td>983</td>
<td>Military, Rank Not Specified (Census only)</td>
</tr>
</tbody>
</table>
B3. Industry Codes
Equivalent numeric codes follow the alphabetic codes. Either code may be used, depending on the processing method. Abbreviation "pt" means "part" and "n.e.c." means "not elsewhere classified."

AGRICULTURE, FORESTRY, FISHING, AND HUNTING
017. Crop production
018. Animal production
019. Forestry except logging
027. Logging
028. Fishing, hunting, and trapping
029. Support activities for agriculture and forestry

MINING
037. Oil and gas extraction
038. Coal mining
039. Metal ore mining
047. Nonmetallic mineral mining and quarrying
048. Not specified type of mining
049. Support activities for mining

UTILITIES
057. Electric power generation transmission and distribution
058. Natural gas distribution
059. Electric and gas and other combinations
067. Water, steam, air-conditioning, and irrigation systems
068. Sewage treatment facilities
069. Not specified utilities

CONSTRUCTION
077. Construction

MANUFACTURING
107. Animal food, grain, and oilseed milling
108. Sugar and confectionery products
109. Fruit and vegetable preserving and specialty food manufacturing
117. Dairy product manufacturing
118. Animal slaughtering and processing
119. Retail bakeries
127. Bakeries except retail
128. Seafood and other miscellaneous foods n.e.c.
129. Not specified food industries
137. Beverage manufacturing
139. Tobacco manufacturing
147. Fiber, yarn, and thread mills
148. Fabric mills, except knitting
149. Textile and fabric finishing and coating mills
157. Carpets and rugs manufacturing
159. Textile product mills except carpets and rugs
167. Knitting mills
168. Cut and sew apparel manufacturing
169. Apparel accessories and other apparel manufacturing
177. Footwear manufacturing
179. Leather tanning and products, except footwear manufacturing
187. Pulp, paper, and paperboard mills
188. Paperboard containers and boxes
189. Miscellaneous paper and pulp products
199. Printing and related support activities
207. Petroleum refining
209. Miscellaneous petroleum and coal products
217. Resin, synthetic rubber and fibers, and filaments manufacturing
218. Agricultural chemical manufacturing
219. Pharmaceutical and medicine manufacturing
227. Paint, coating, and adhesives manufacturing
228. Soap, cleaning compound, and cosmetic manufacturing
229. Industrial and miscellaneous chemicals
237. Plastics product manufacturing
238. Tire manufacturing
239. Rubber products, except tires, manufacturing
247. Pottery, ceramics, and related products manufacturing
248. Structural clay product manufacturing
249. Glass and glass product manufacturing
257. Cement, concrete, lime, and gypsum product manufacturing
259. Miscellaneous nonmetallic mineral product manufacturing
267. Iron and steel mills and steel product manufacturing
268. Aluminum production and processing
269. Nonferrous metal, except aluminum, production and processing
277. Foundries
278. Metal forgings and stampings
279. Cutlery and hand tool manufacturing
287. Structural metals and tank and shipping container manufacturing
288. Machine shops; turned product; screw nut and bolt manufacturing
289. Coating, engraving, heat treating and allied activities
297. Ordnance
298. Miscellaneous fabricated metal products manufacturing
299. Not specified metal industries
307. Agricultural implement manufacturing
308. Construction mining and oil field machinery manufacturing
309. Commercial and service industry machinery manufacturing
317. Metalworking machinery manufacturing
318. Engines, turbines, and power transmission equipment manufacturing
319. Machinery manufacturing, n.e.c.
329. Not specified machinery manufacturing
336. Computer and peripheral equipment manufacturing
337. Communications, audio, and video equipment manufacturing
338. Navigation, measuring, electrometrical, and control instruments manufacturing
339. Electronic component and product manufacturing, n.e.c.
347. Household appliance manufacturing
349. Electrical machinery, equipment, and supplies manufacturing, n.e.c.
357. Motor vehicles and motor vehicle equipment manufacturing
358. Aircraft and parts manufacturing
359. Aerospace product and parts manufacturing
367. Railroad rolling stock manufacturing
368. Ship and boat building
369. Other transportation equipment manufacturing
377. Sawmills and wood preservation
378. Veneer, plywood, and engineered wood product manufacturing
379. Prefabricated wood buildings and mobile homes manufacturing
387. Miscellaneous wood product manufacturing
389. Furniture and fixtures
396. Medical equipment and supplies manufacturing
397. Toys, amusement, and sporting goods manufacturing
398. Miscellaneous manufacturing, n.e.c.
399. Not specified manufacturing industries

WHOLESALE TRADE
407. Motor vehicles, parts and supplies wholesalers
408. Furniture and home furnishing wholesalers
409. Lumber and other construction materials wholesalers
417. Professional and commercial equipment and supplies Wholesalers
418. Metals and minerals, except petroleum, wholesalers
419. Electrical goods wholesalers
426. Hardware, plumbing and heating equipment, and supplies wholesalers
427. Machinery, equipment, and supplies wholesalers
428. Recyclable material wholesalers
429. Miscellaneous durable goods wholesalers
437. Paper and paper product wholesalers
438. Drugs, sundries, and chemical and allied product Wholesalers
439. Apparel, fabrics, and notions wholesalers
447. Groceries and related product wholesalers
448. Farm product raw material wholesalers
449. Petroleum and petroleum product wholesalers
456. Alcoholic beverage wholesalers
457. Farm supplies wholesalers
458. Miscellaneous nondurable goods wholesalers
459. Not specified wholesale trade

RETAIL TRADE
467. Automobile dealers
468. Other motor vehicle dealers
469. Auto parts, accessories, and tire stores
477. Furniture and home furnishings stores
478. Household appliance stores
479. Radio, TV, and computer stores
487. Building material and supplies dealers
488. Hardware stores
489. Lawn and garden equipment and supplies stores
497. Grocery stores
498. Specialty food stores
499. Beer, wine, and liquor stores
507. Pharmacies and drug stores
508. Health and personal care, except drug, stores
509. Gasoline stations
517. Clothing and accessories, except shoe, stores
518. Shoe stores
519. Jewelry, luggage, and leather goods stores
527. Sporting goods, camera, and hobby and toy stores
528. Sewing, needlework and piece goods stores
529. Music stores
537. Book stores and news dealers
538. Department stores
539. Miscellaneous general merchandise stores
547. Retail florists
548. Office supplies and stationary stores
549. Used merchandise stores
557. Gift, novelty, and souvenir shops
558. Miscellaneous retail stores
559. Electronic shopping and mail-order houses
567. Vending machine operators
568. Fuel dealers
569. Other direct selling establishments
579. Not specified retail trade

TRANSPORTATION AND WAREHOUSING
607. Air transportation
608. Rail transportation
609. Water transportation
617. Truck transportation
618. Bus service and urban transit
619. Taxi and limousine service
627. Pipeline transportation
628. Scenic and sightseeing transportation
629. Services incidental to transportation
637. Postal Service
638. Courier and messengers
639. Warehousing and storage

INFORMATION
647. Newspaper publishers
648. Publishing except newspapers and software
649. Software publishing
657. Motion pictures and video industries
659. Sound recording industries
667. Radio and television broadcasting and cable
668. Wired telecommunications carriers
669. Other telecommunication services
677. Libraries and archives
678. Other information services
679. Data processing services

FINANCE AND INSURANCE
687. Banking and related activities
688. Savings institutions, including credit unions
689. Non-depository credit and related activities
697. Securities, commodities, funds, trusts, and other financial investments
698. Insurance carriers and related activities

REAL ESTATE AND RENTAL AND LEASING
707. Real estate
708. Automotive equipment rental and leasing
717. Video tape and disk rental
718. Other consumer goods rental
719. Commercial, industrial, and other intangible assets rental and leasing

PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES
727. Legal services
728. Accounting, tax preparation, bookkeeping and payroll services
729. Architectural, engineering, and related services
737. Specialized design services
738. Computer systems design and related services
739. Management, scientific and technical consulting services
746. Scientific research and development services
747. Advertising and related services
748. Veterinary services
749. Other professional, scientific and technical services

MANAGEMENT, ADMINISTRATIVE AND SUPPORT, AND WASTE MANAGEMENT SERVICES
757. Management of companies and enterprises
758. Employment services
759. Business support services
767. Travel arrangement and reservation services
768. Investigation and security services
769. Services to buildings and dwellings
777. Landscaping services
778. Other administrative and other support services
779. Waste management and remediation services

EDUCATIONAL SERVICES
786. Elementary and secondary schools
787. Colleges and universities, including junior colleges
788. Business, technical, and trade schools and training
789. Other schools, instruction, and educational services

HEALTH CARE AND SOCIAL ASSISTANCE
797. Offices of physicians
798. Offices of dentists
799. Office of chiropractors
807. Offices of optometrists
808. Offices of other health practitioners
809. Outpatient care centers
817. Home health care services
818. Other health care services
819. Hospitals
827. Nursing care facilities
829. Residential care facilities, without nursing
837. Individual and family services
838. Community food and housing, and emergency services
839. Vocational rehabilitation services
847. Child day care services

ARTS, ENTERTAINMENT, AND RECREATION
856. Independent artists, performing arts, spectator sports, and related industries
857. Museums, art galleries, historical sites, and similar Institutions
858. Bowling centers
859. Other amusement, gambling, and recreation industries

ACCOMMODATIONS AND FOOD SERVICES
866. Traveler accommodation
867. Recreational vehicle parks and camps, and rooming and boarding houses
868. Restaurants and other food services
869. Drinking places, alcoholic beverages

OTHER SERVICES (EXCEPT PUBLIC ADMINISTRATION)
877. Automotive repair and maintenance
878. Car washes
879. Electronic and precision equipment repair and maintenance
887. Commercial and industrial machinery and equipment repair and maintenance
888. Personal and household goods repair and maintenance
889. Footwear and leather goods repair
897. Barber shops
898. Beauty salons
899. Nail salons and other personal care services
907. Dry cleaning and laundry services
908. Funeral homes, cemeteries and crematories
909. Other personal services
916. Religious organizations
917. Civic, social, advocacy organizations, and grantmaking and giving services
918. Labor unions
919. Business, professional, political, and similar Organizations
929. Private households

PUBLIC ADMINISTRATION AND ACTIVE DUTY MILITARY
937. Executive offices and legislative bodies
938. Public finance activities
939. Other general government and support
947. Justice, public order, and safety activities
948. Administration of human resource programs
949. Administration of environmental quality and housing programs
957. Administration of economic programs and space research
959. National security and international affairs
967. U.S. Army
968. U.S. Air Force
969. U.S. Navy
977. U.S. Marines
978. U.S. Coast Guard
979. U.S. Armed Forces, branch not specified
987. Military Reserves or National Guard
999. DK; NA; Don’t know; Not ascertained

C. State and Country Codes

C1. STATES
01. Alaska (AK)
02. Alabama (AL)
53. American Samoa, Guam
03. Arizona (AZ)
04. Arkansas (AR)
05. California (CA)
06. Colorado (CO)
07. Connecticut (CT)
08. Delaware (DE)
51. Dist. of Columbia (DC)
09. Florida (FL)
10. Georgia (GA)
53. Guam (GU)
11. Hawaii (HI)
12. Idaho (ID)
13. Illinois (IL)
14. Indiana (IN)
15. Iowa (IA)
16. Kansas (KS)
17. Kentucky (KY)
18. Louisiana (LA)
19. Maine (ME)
20. Maryland (MD)
21. Massachusetts (MA)
22. Michigan (MI)
23. Minnesota (MN)
24. Mississippi (MS)
25. Missouri (MO)
26. Montana (MT)
27. Nebraska (NE)
28. Nevada (NV)
29. New Hampshire (NH)
30. New Jersey (NJ)
31. New Mexico (NM)
32. New York (NY)
33. North Carolina (NC)
34. North Dakota (ND)
35. Ohio (OH)
36. Oklahoma (OK)
37. Oregon (OR)
38. Pennsylvania (PA)
52. Puerto Rico (PR)
39. Rhode Island (RI)
40. South Carolina (SC)
41. South Dakota (SD)
42. Tennessee (TN)
43. Texas (TX)
44. Utah (UT)
45. Vermont (VT)
53. (U.S.) Virgin Islands
46. Virginia (VA)
47. Washington (WA)
51. Washington, D.C. (DC)
48. West Virginia (WV)
49. Wisconsin (WI)
50. Wyoming (WY)

C2. OTHER U.S.
51. District of Columbia; Washington, D.C.
52. Puerto Rico
53. Guam, American Samoa, U.S. Virgin Islands, Panama Canal Zone
59. USA, NA which state

C3. OTHER COUNTRIES
97. Other Country

98. DK
99. NA