Documentation for all Data Sets

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Documentation for all Data Sets

HEALTH ABC DATA ANALYSIS FILE

To use the datasets, please contact the PI at your site.

Contents:

SAS Datasets

Y2ClnVis	Year 2 Clinic Visit, Questionnaire, and Return Visit data related to clinic visits
Y2CoreHV	Year 2 Core Home Visit Workbook, Year 2 Home Visit Phlebotomy and Laboratory Processing, and Return Visit data related to home visits
SA18Mo	18-month Semi-Annual Telephone Contact data
MissVis	Missed Follow-up Contact data for Yr 1, 6-mo, Yr 2, and 18-mo contacts
Y2Read	Year 2 Reading Center data (excluding EE, Perio, MRI, and Xray)
Y2Calc	Year 2 calculated (derived) variables
Y2MIF	Year 2 Medication Inventory Forms data (see MIF documentation)
Y2MIFCOD	Year 2 MIF data with 1 record per ingredient/participant pair (see MIF documentation)
Y2RxCalc	Calculated medication use variables based on Year 2 MIF data
BMDNotes	Explanatory notes for BMD QC code variables (under the link Y2BMDNotes)

In addition the following files, not specific to any year but updated each time data are released, can be found at the top of the Current Datasets listing:

PH	Participant History File
Formats	SAS Format Library

DXA datasets for Repeated Measure Analysis

Dxrean12	Whole body BMD data for baseline (Year 1) and Year 2 for year-by-year longitudinal analyses only. Where Year 2 scans required a change of region of interest (ROI), Year 1 scans have been reanalyzed to match the Year 2 ROI (see Reading Center data documentation)

PARTICIPANT HISTORY FILE (PH)

1. General description

The PH file contains general information about the participants enrolled in the study. Variables included are:

CV1AGE	Age at Year 1 Clinic Visit
CV1DATE	Year 1 Clinic Visit Date
CV2AGE	Age at Year 2 Clinic Visit
CV2DATE	Year 2 Clinic Visit Date
SV06AGE	Age at 6-Month Contact
SV06DATE	6-Month Contact Date
SV18AGE	Age at 18-Month Contact
SV18DATE	18-Month Contact Date
DOB	Date of Birth
DOD	Date of Death
GENDER	Gender (1=Male; 2=Female)
HABCID	Health ABC Enrollment ID# without the 2-letter prefix
HCFAID	HCFA Screening ID (as assigned by the Coordinating Center)
RACE	Race (1=White; 2=Black)
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh
VStatus	Vital Status (1=Alive, 2=Dead) **as of PH file release date**
VERSIONPH	Participant History File Release Date

The birthdate, race, and gender data come from the edited HCFA data. The clinic visit dates were taken from the Year 1 and 2, and 3 Clinic Visit Workbooks or the Year 2, and 3 Core Home Visit Workbooks. Semi-annual contact dates were taken from the 6-month Follow-up Contact and the Semi-annual Telephone Contact forms; participants who missed a visit or contact have no corresponding clinic visit or semi-annual contact date. Age is a calculated variable based on birthdate and contact date.

There are 3075 observations in the PH file. The demographic breakdown of participants in this dataset is as follows:

African-American Female	729
African-American Male	552
White Female	855
White Male	939
Memphis Participants	1548
Pittsburgh Participants	1527

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under PH) or by searching the Datadict file (sort by form or database).

3. Dataset structure and contents

The PH file contains a single observation per participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
HCFAID	HCFA ID (as assigned by the Coordinating Center)

4. Condition of data

a. Known data errors: One participant who previously had an impossible CV2AGE set to .E, due to an incorrect Year 2 Clinic Visit Workbook date, now has a valid CV2AGE.

b. Strength and weaknesses of dataset items: If a death has been reported on a Missed Visit Form, an Event Form, or the Report of Death, the participant is listed as deceased in the vital status variable (VStatus) variable. Note VStatus is vital status **as of the release data of the participant history file**, not as of any particular visit.

The date of death (DOD) variable represents the best available information about the date of death for deceased participants as of the creation date of participant history file (PH).* If a Report of Death form has been entered for the participant, the date of death from that adjudication form is used. If there is no Report of Death form yet, this information is taken from the Event Form dataset, and is therefore an un-confirmed, un-adjudicated date of death.

c. Missing Value Conventions: See Special Missing Value Codes on page 13 for special missing value codes applied

* Run proc contents in SAS to see creation date of the PH file.

5. Dataset index formulation and key variable mapping

The PH file is sorted by HABCID, which is a unique identifier for each participant.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets.

YEAR 2 CLINIC VISIT DATA (Y2ClnVis)

1. General description

The Y2ClnVis file contains information about the participants enrolled in the study gathered from the Year 2 Clinic Visit Workbook, Year 2 Questionnaire, and Return Visit Phlebotomy and Processing Forms associated with clinic visits. If a participant did not have a Year 2 clinic visit or a Year 2 home visit, they should have a Missed Follow-up Contact form that explains why. These data can be found the dataset MissVis (see page 11).

There are 3075 observations in the Y2ClnVis file.

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under Y2ClnVis) or by searching the Datadict file (sort by form or database). Variable names can also be found on the annotated forms. Please note that not all variables on the forms are contained in the dataset. All variables not found in the dataset are listed in Dropped Variables and Alternates (Appendix I). Alternate variables to use (if applicable) are also listed.

3. Dataset structure and contents

The Y2ClnVis file contains a single observation per participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh*
COREHV	Had Core Home Visit (see Y2CoreHV) (1=Yes, otherwise missing)
MISSVIS	Missed Y2 Visit
MISSREAS	Reason Y2 Visit Missed
VISITYPE	Type of Y2 Visit (clinic, home, phone, etc)

* Must link to Health ABC participant history file (PH) to add this variable.

4. Condition of data

a. Known data errors:

Year 2 Questionnaire

1. Questions 31, 49, 52, 53: There was considerable inconsistency within the questionnaires of some participants regarding pain on chewing when giving answers to these questions. It was decided that this should not be edited because it is not unusual for participants to contradict themselves during self-report and further questioning was likely to lead only to further contradictions.

2. Question 55: A very large number of participants contradicted their baseline responses regarding a pre-existing history of arthritis or gout (i.e., reported to have had one of these conditions at baseline, but not at year 2). It was decided that this should not be edited because it is not unusual for participants to contradict themselves during self-report and further questioning was likely to lead only to further contradictions. Neither the baseline nor the Year 2 question should be considered alone as the definitive source of a reliable count of prevalent arthritis or gout.

Year 2 Clinic Visit Workbook

1. Dental Examination, page 28-31: The dental and periodontal exam did not get under way at both clinics until several months into the exam year. Consequently, participants missed during Year 2 were examined, if possible, during the first part of year 3. Data from the Periodontal Reading Center, along with the data from the Year 2 Clinic Visit Workbook pages 28-31were released in the Substudy Data Sets in the Year 3 data (12/00).

2. Knee Xray and MRI, pages 43-45: Not enough controls could be recruited during Year 2 to complete the Knee MRI samples, so MRIs and Xrays of controls continued through much of Year 3. Data from the Knee Xray Reading Center, along with the data from the Year 2 Clinic Visit Workbook pages 43-45, were released in the Substudy Data Sets in the Year 3 data (12/00). Data from the Knee MRI Reading Center will be released with the next Year 3 dataset.

3. Energy Expenditure, pages 46-47: Due to a worldwide shortage of doubly labeled water, the energy expenditure substudy recruiting had to be extended through all of Year 3 and even into the first month of Year 4. Data from the Energy Expenditure Reading Center, along with the data from the Year 2 Clinic Visit Workbook pages 46-47 were released in the Substudy Data Sets in the Year 3 data (12/00).

b. Strength and weaknesses of dataset items: The variable VISITYPE has been added to this file to give investigators a quick key to what type of visit each participant had at the Year 2 contact, and thus which file contains their data. The possible values of this variable are:

0: Clinic
1: Home
2: Phone
3: Missed
4: Deceased
5: Withdrew

A proc FREQ of this variable gives an easy way of determining retention at this visit. Note that nursing home visit and "other" types of visits recorded on Core Home Visit workbooks have been assigned values of VISITYPE=1 (home) if physical measurements (weight in particular)

were made, and VISITYPE=2 (phone) if physical measurements were not done. There are also isolated cases in which ZACONTAC was mismarked, judging from the presence or absence of physical measurements. These contacts have been reassigned to the correct VISITYPE, using the above algorithm, and queries have been created to ask the sites to correct the ZACONTAC variable. Note also that VISITYPE=4 (deceased) is as accurate a reflection as could be created of the participant's vital status as of their visit target date, based on the available information. That is, if a Missed Follow-up Contact form was completed listing the participant as having missed a visit for some other reason than death (e.g., could not locate), but a Report of Death or Event Form has been entered giving a DOD before the date of the Missed Follow-up Contact form, VISITYPE was assigned as 4 (see page 5 for a more detailed description of the DOD variable).

Food Frequency Questionnaire: Year 2 data are now fully edited, and FFQ results have been reanalyzed.

c. Missing Value Conventions: See Special Missing Value Codes on page 13 for special missing value codes applied

5. Dataset index formulation and key variable mapping

The Y2ClnVis file is sorted by HABCID, which is a unique identifier for each participant.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets.

YEAR 2 CORE HOME VISIT DATA (Y2CoreHV)

1. General description

The Y2CoreHV file contains information about the participants enrolled in the study gathered from the original Core Home Visit Workbook, subsetted to year 2 home visits, plus Year 2 Home Visit Phlebotomy and Laboratory Processing forms, and any Return Visit Phlebotomy and Laboratory Processing forms associated with a Year 2 home visit. If a participant did not have a Year 2 clinic visit or a Year 2 home visit, they should have a Missed Follow-up Contact form that explains why. These data can be found the dataset MissVis (see page 11).

There are 268 observations in the Y2CoreHV file.

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under Y2CoreHV) or by searching the Datadict file (sort by form or database). Variable names can also be found on the annotated forms. Please note that not all variables on the forms are contained in the dataset. All variables not found in the dataset are listed in Dropped Variables and Alternates (Appendix I). Alternate variables to use (if applicable) are also listed.

3. Dataset structure and contents

The Y2CoreHV file contains a single observation per participant and has records only for those participants who had a home visit (see Known Data Errors, below, for an exception). A participant may have "home visit" data either from a true visit in the home (ZACONTAC=1), or from a telephone or other contact in lieu of a home visit (ZACONTAC=2 or 3), if the participant was unwilling or unable to have an examiner come to the home. If the data were collected by telephone, all physical measurements (data collected on pages 30-40; i.e., all variables beginning with Z2) will be missing. In addition, if participants were unwilling to answer the entire questionnaire on pages 2-29, examiners were instructed to concentrate on the questions marked with a star (see annotated Core Home Visit form). Thus, some participants may be missing un-starred variables, and the exact variables completed or missing may vary from participant to participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh*

4. Condition of data

a. Known data errors: None.

b. Strength and weaknesses of dataset items: None.

c. Missing Value Conventions: See Special Missing Value Codes page 13 for special missing value codes applied

5. Dataset index formulation and key variable mapping

The Y2CoreHV file is sorted by HABCID, which is a unique identifier for each participant.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets.

* Must link to Health ABC participant history file (PH) to add this variable.

18-MONTH SEMI-ANNUAL TELEPHONE CONTACT DATA (SA18Mo)

1. General description

The SA18Mo file contains information about the participants enrolled in the study gathered from the 18-month Semi-Annual Telephone Contact forms. If a participant did not receive an 18-month follow-up telephone call, they should have a Missed Follow-up Contact form that explains why. These data can be found the dataset MissVis (see page 11). All participants are accounted for in this dataset (n=3075) by including MISSVIS and MISSREASON. For all participants who did not miss the 18-month Semi-Annual Telephone Contact, these variables will be blank.

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under SA18Mo) or by searching the Datadict file (sort by form or database). Calculated variable names and descriptions are listed in Appendix II. Variable names can also be found on the annotated forms. Please note that not all variables on the forms are contained in the dataset. All variables not found in the dataset are listed in Dropped Variables and Alternates (Appendix I). Alternate variables to use (if applicable) are also listed.

3. Dataset structure and contents

The SA18Mo file contains a single observation per participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh*

4. Condition of data

a. Known data errors: None at this time.

b. Strength and weaknesses of dataset items: Calculated variables have now been added (see Appendix II).

c. Missing Value Conventions: See Special Missing Value Codes page 13 for special missing value codes applied

5. Dataset index formulation and key variable mapping

The SA18Mo file is sorted by HABCID, which is a unique identifier for each participant.

* Must link to Health ABC participant history file (PH) to add this variable.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets.

MISSED FOLLOW-UP CONTACT DATA (MissVis)

1. General description

The MissVis file contains information about the participants who have missed a follow-up contact (died, refused, lost to follow-up, etc) at any time during the study, up through the 18-month Semi-Annual Telephone Contact.

If a participant did not receive a 6-month or 18-month follow-up telephone call, or if they had neither a Year 2 clinic visit nor a Year 2 home visit, they should have a Missed Follow-up Contact form that explains why. The number of Missed Follow-up Contact forms related to each of these visits is shown below:

6-month follow-up telephone call	17
Year 2 clinic/home visit	77
18-month semi-annual telephone call	123

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under MissVis) or by searching the Datadict file (sort by form or database). Variable names can also be found on the annotated forms.

3. Dataset structure and contents

The MissVis file contains multiple observations per participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh*
BJID2	Contact missed (9=6-month, 2=Year 2, 10=18-month)

* Must link to Health ABC participant history file (PH) to add this variable.

4. Condition of data

a. Known data errors: None.

b. Strength and weaknesses of dataset items: If a participant missed a visit due to death or withdrawal from the study, the Missed Follow-up Contact corresponding to the first contact missed for this reason is generally the last Missed Follow-up Contact for that participant. That is, field centers were instructed not to continue completing Missed Follow-up Contacts for each subsequent contact missed after the death of a participant or their withdrawal from the study. If a participant could not be located at one contact and therefore had a Missed Follow-up Contact completed for that contact, then subsequently was found to have died before that contact, the death was recorded on a Missed Follow-up Contact form for the subsequent contact. That is, the Missed Follow-up Contact information reflects the status of the participant as known to the field center at the time of the scheduled contact. Missed Follow-up Contact should not be used to determine approximate date of death, nor even numbers of participants who had died as of a particular follow-up contact. Date of Death (DOD) can be found in the PH file. VISITYPE, a new variable in the Y2ClnVis file, combines DOD information and Missed Follow-up Contact information to give a relatively accurate vital status as of the Year 2 clinic visit target date (see page 7).

If a participant was found to have both a Missed Follow-up Contact form for a particular contact and the corresponding contact forms (e.g. Clinic Visit Workbook, Core Home Visit Workbook, or Semi-Annual Follow-Up Contact form, the Missed Follow-up Contact form data for that participant were deleted from the analysis file.

c. Missing Value Conventions: See Special Missing Value Codes page 13 for special missing value codes applied

5. Dataset index formulation and key variable mapping

The MissVis file is sorted by HABCID, which is a unique identifier for each participant. The combination of HABCID and BJID2 is a unique identifier for a participant/contact record in this dataset.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets. The MissVis file must first be subsetted by BJID2 to the contact desired before merging with a contact-specific, one-record-per-participant dataset.

MEDICATIONS AND CALCULATED VARIABLES

The contents of these files are under separate bookmarks in this same PDF document. Or click in the heading above, which is linked to the relevant sections.

SPECIAL MISSING VALUE CODES

SAS allows for stratification of missing values. The following missing values have been assigned:

. ='Missing Form'
.A='A:Not Applicable'
.E='E:Special Missing'
.M='M:Missing'
.N='N:Not Required'

Description

. : Missing Form
Used when a value is missing because the entire form has not been entered.

A: Not Applicable
Used when a value is missing but the value is not required (due to simple skip pattern logic)

E: Special Missing
Used to flag that a value was entered originally but should not have been (due to a skip pattern logic error) and that the value has been recoded to missing

M:Missing
Used to flag missing values when the value is required (i.e., true missing values).

N:Not Required
Used when a value is missing but the value is not required (not due to simple skip pattern logic). For example, for checkbox variables which are "Check all that apply": each one, individually, is not required. In these cases, a summary calculated variable (not included in the dataset) was used to edit missing responses. Some variables whose skip pattern logic is non-standard (i.e., the skip pattern involves several variables and forms) also have .N flags when missing, whether or not a response was required due to the skip pattern.

General Strategies for Using Special Missing Values

In SAS, when using special missing values in logical expressions, the missing value is no longer only equal to '.' To express a value not equal to missing, the code should be written >.z or alternately: gt .z. .Z is the greatest value of missing available in SAS. To express a value equal to missing, the code should be written: <= .z or alternately: le .z

LISTINGS

A PDF listing of the SAS proc contents printout for all SAS datasets can be found under the "Proc Contents for All Datasets" link.

A text file, Formats.lst, showing all formats and value descriptions (e.g.: 1=White, 2=Black) contained in the SAS Format Library can also be downloaded. Click on FormatsList under the List of Current Datasets on the Health ABC website.

The following files are zipped together in a self-extracting document also available on the Health ABC website under the Current Datasets listing

Datadict.xls Microsoft Excel 4.0 spreadsheet containing information about all variables included in the SAS datasets

Datadict.dat Tab-delimited text file containing the same information as above.

MIFLegend.xls Microsoft Excel 4.0 spreadsheet containing formatted MIF legend, showing all medication ingredients used by participants, grouped by IDIS code hierarchy, and including frequencies for each ingredient (see MIF documentation)

MIFLegend.dat Tab-delimited text file containing the same information as above.

DATA DICTIONARY (datadict.xls, datadict.dat)

General description

This is a searchable/sortable file that contains all the variables included in the SAS datasets. The following fields are included:

Variable	Variable Name
Label	Description of the variable
Form	Form or reading center origin of the variable
Page	Page number (not applicable for reading center or PH data)
Database	Database location of the variable
Variable Types	Type of variable (text, categorical (numeric), continuous (numeric), date, time, etc.)
Possible Values	Range of possible values associated with the variable (used for range edits)
SAS Format	SAS format assigned to the variable
Page Order	Variable order on the data collection forms (useful for sorting)

General Strategies for Use

The data dictionary is provided in two formats: Excel 4.0 and tab-delimited text. They contain exactly the same information. The tab-delimited file was generated to provide easy access to those who do not have Excel version 4.0 or higher.

The file is currently sorted by page order, form, page. It can be used to search for details on a particular variable, to group by database or form, or to find a variable location on a form. It is a little more user friendly than the standard SAS proc contents, as it can be sorted, easily searched, and it provides additional details such as page number and form.

Appendix I
Dropped Variables and Alternates

Variable omitted	Variable to use
B1ACROS	N/A (confidentiality)
B1ACROS2	N/A (confidentiality)
B1ACROS3	N/A (confidentiality)
B1DOC	N/A (bookkeeping)
B1ID	HABCID
B1ID2	HABCID
B1ID3	HABCID
B1LINK	N/A (bookkeeping)
B2ACROS	N/A (confidentiality)
B2ID	HABCID
B2LINK	N/A (bookkeeping)
B3ACROS	N/A (confidentiality)
B3ACROS2	N/A (confidentiality)
B3ACROS3	N/A (confidentiality)
B3ACROS4	N/A (confidentiality)
B3ACROS5	N/A (confidentiality)
B3ACROS6	N/A (confidentiality)
B3ACROS7	N/A (confidentiality)
B3ACROS8	N/A (confidentiality)
B3ACROS9	N/A (confidentiality)
B3ANTIBI	See Yr 2/3 DentalData (10/15/00)
B3AVTORQ	KCTMEAN
B3BUCMUC	See Yr 2/3 DentalData (10/15/00)
B3CANCER	See Yr 2/3 DentalData (10/15/00)
B3CHEEKS	See Yr 2/3 DentalData (10/15/00)
B3CHSRD	See Yr 2/3 DentalData (10/15/00)
B3DENTUR	See Yr 2/3 DentalData (10/15/00)
B3DIAB2	B1DIA3
B3DORTON	See Yr 2/3 DentalData (10/15/00)
B3ELIG	See Yr 2/3 DentalData (10/15/00)
B3ELIGPR	See Yr 2/3 DentalData (10/15/00)
B3ENDO	See Yr 2/3 DentalData (10/15/00)
B3FENPHN	See Yr 2/3 DentalData (10/15/00)
B3FLOORM	See Yr 2/3 DentalData (10/15/00)
B3FLOWER	See Yr 2/3 DentalData (10/15/00)
B3FUPPER	See Yr 2/3 DentalData (10/15/00)
B3ID	HABCID
B3ID2	HABCID
B3ID3	HABCID
B3ID4	HABCID
B3ID5	HABCID
B3ID6	HABCID

Variable omitted	Variable to use
B3ID7	HABCID
B3ID8	HABCID
B3ID9	HABCID
B3IMPLNT	See Yr 2/3 DentalData (10/15/00)
B3KIDNEY	See Yr 2/3 DentalData (10/15/00)
B3LABMUC	See Yr 2/3 DentalData (10/15/00)
B3LINK	N/A (bookkeeping)
B3LIPS	See Yr 2/3 DentalData (10/15/00)
B3LSTTH	See Yr 2/3 DentalData (10/15/00)
B3LTOOTH	See Yr 2/3 DentalData (10/15/00)
B3MURMUR	See Yr 2/3 DentalData (10/15/00)
B3MVP	See Yr 2/3 DentalData (10/15/00)
B3NTEETH	See Yr 2/3 DentalData (10/15/00)
B3PACEM	See Yr 2/3 DentalData (10/15/00)
B3PALATE	See Yr 2/3 DentalData (10/15/00)
B3PKTORQ	KCTMAX
B3PLOWER	See Yr 2/3 DentalData (10/15/00)
B3PRED	See Yr 2/3 DentalData (10/15/00)
B3PULSE1	B1PLSAV
B3PUPPER	See Yr 2/3 DentalData (10/15/00)
B3RHD	See Yr 2/3 DentalData (10/15/00)
B3SCAN1	WBSCANID, WBMODE
B3SCAN3	WBSCANID, WBMODE
B3SYSB2	B1SY3
B3TRNPLT	See Yr 2/3 DentalData (10/15/00)
B3UVULA	See Yr 2/3 DentalData (10/15/00)
B3VALVE	See Yr 2/3 DentalData (10/15/00)
B3VENTON	See Yr 2/3 DentalData (10/15/00)
B4ACROS	N/A (confidentiality)
B4ACROS2	N/A (confidentiality)
B4ACROS3	N/A (confidentiality)
B4ACROS4	N/A (confidentiality)
B4ACROS5	N/A (confidentiality)
B4ACROS6	N/A (confidentiality)
B4AXLN	See Yr 2/3 Knee Xray Data (10/15/00?)
B4AXRK	See Yr 2/3 Knee Xray Data (10/15/00?)
B4AXSSLK	See Yr 2/3 Knee Xray Data (10/15/00?)
B4AXSSRN	See Yr 2/3 Knee Xray Data (10/15/00?)
B4BMANG1	See Yr 2/3 Knee Xray Data (10/15/00?)
B4DATE5	See Yr 2/3 Knee Xray Data (10/15/00?)
B4ID	HABCID
B4ID2	HABCID
B4ID3	HABCID
B4ID4	HABCID

Variable omitted	Variable to use
B4ID5	HABCID
B4ID6	HABCID
B4KMANUR	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMCLAU	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMDATE	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMEAR	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMFAC	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMKNRP	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMLA	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMMRI	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMPACE	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMRA	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMRC	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMRS	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMSURG	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMTECH	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMVALV	See Yr 2/3 Knee MRI Data (12/15/00)
B4KMWT	See Yr 2/3 Knee MRI Data (12/15/00)
B4KNFLEX	See Yr 2/3 Knee Xray Data (10/15/00?)
B4KXTVR	See Yr 2/3 DentalData (10/15/00)
B4KXTVRM	See Yr 2/3 Knee Xray Data (10/15/00?)
B4LINK	N/A (bookkeeping)
B4MAS2	See Yr 2/3 Knee Xray Data (10/15/00?)
B4MAS3	See Yr 2/3 Knee Xray Data (10/15/00?)
B4STFID5	See Yr 2/3 Knee Xray Data (10/15/00?)
B54HRS	See Yr 2/3 EE Data (10/15/00)
B5ACROS	N/A (confidentiality)
B5ACROS2	N/A (confidentiality)
B5ACROS3	N/A (confidentiality)
B5AMPM1	B5TIM124
B5AMPM2	B5TIM242
B5AMPM3	B5TIM324
B5AMPM5	N/A (bookkeeping)
B5AMPM6	B5TIM624
B5AMPMB	B4TIMB24
B5AMPMO1	B5TM24O1
B5AMPMO2	B5TM24O2
B5AMPMO3	B5TM24O3
B5AMPMS	B5TIMS24
B5AMPMSU	B5TM24SU
B5BLDRTM	N/A (bookkeeping)
B5BOT	See Yr 2/3 EE Data (10/15/00)
B5DLW	See Yr 2/3 EE Data (10/15/00)
B5HRS	See Yr 2/3 EE Data (10/15/00)

Variable omitted	Variable to use
B5HRSRF	See Yr 2/3 EE Data (10/15/00)
B5ID2	HABCID
B5ID3	HABCID
B5IV	See Yr 2/3 EE Data (10/15/00)
B5LINK	N/A (bookkeeping)
B5LMAPM	B5MHM24
B5LOT	See Yr 2/3 EE Data (10/15/00)
B5MHM	B5MHM24
B5OTH	See Yr 2/3 EE Data (10/15/00)
B5SPILL	See Yr 2/3 EE Data (10/15/00)
B5SUS	See Yr 2/3 EE Data (10/15/00)
B5TIM124	See Yr 2/3 EE Data (10/15/00)
B5TIM224	See Yr 2/3 EE Data (10/15/00)
B5TIM324	See Yr 2/3 EE Data (10/15/00)
B5TIMB24	See Yr 2/3 EE Data (10/15/00)
B5TIMS24	See Yr 2/3 EE Data (10/15/00)
B5TIME1	B5TIM124
B5TIME2	B5TIM224
B5TIME3	B5TIM324
B5TIME6	B5TIM624
B5TIMEB	B5TIMB24
B5TIMEO1	B5TM24O1
B5TIMEO2	B5TM24O2
B5TIMEO3	B5TM24O3
B5TIMES	B5TIMS24
B5TIMSU	B5TM24SU
B5TM24O1	See Yr 2/3 EE Data (10/15/00)
B5TM24O2	See Yr 2/3 EE Data (10/15/00)
B5TM24O3	See Yr 2/3 EE Data (10/15/00)
B5TIMS24	See Yr 2/3 EE Data (10/15/00)
B5TM24SU	See Yr 2/3 EE Data (10/15/00)
B5TRAV	See Yr 2/3 EE Data (10/15/00)
B5VOLOT1	See Yr 2/3 EE Data (10/15/00)
B5VOLOT2	See Yr 2/3 EE Data (10/15/00)
B5VOLOT3	See Yr 2/3 EE Data (10/15/00)
B5VOLSU	See Yr 2/3 EE Data (10/15/00)
B5VTM	B5VTM24
B5WEIGHT	B1WTK
BCACROS	N/A (confidentiality)
BCEWHRS	BCEWTIM
BCEWMINS	BCEWTIM
BCHCHRS	BCHCTIME
BCHCMINS	BCHCTIME
BCHIA1HR	BCH1TIME
BCHIA1MN	BCH1TIME

Variable omitted	Variable to use
BCID	HABCID
BCLINK	N/A (bookkeeping)
BCOWHRS	BCOWTIM
BCOWMINS	BCOWTIM
BEACROSTIC	N/A (confidentiality)
BEC1PHON	N/A (confidentiality)
BEC2PHON	N/A (confidentiality)
BECITELE	N/A (confidentiality)
BEID	HABCID
BELINK	N/A (bookkeeping)
BEMADATE	N/A (bookkeeping)
BEMATELE	N/A (confidentiality)
BHACROS	N/A (confidentiality)
BHAMPM2	BHVTM24
BHAMPM3	N/A (bookkeeping)
BHBLDRTM	N/A (bookkeeping)
BHID	HABCID
BHLMAPM	BHMHM24
BHMHM	BHMHM24
BHVTM	BHVTM24
BIACROS	N/A (confidentiality)
BIAMPM	BITIME24
BIID	HABCID
BITIME	BITIME24
BJCONTAC	BJID2
BJVISIT	BJID2
BKACROS	N/A (confidentiality)
BKID	HABCID
BZACROS	N/A (confidentiality)
BZHCPHON	N/A (confidentiality)
BZID	HABCID
BZLINK	N/A (bookkeeping)
BZREF10A	N/A (bookkeeping)
BZREF10B	N/A (bookkeeping)
BZREF10C	N/A (bookkeeping)
BZREF11A	N/A (bookkeeping)
BZREF11B	N/A (bookkeeping)
BZREF11C	N/A (bookkeeping)
BZREF12A	N/A (bookkeeping)
BZREF12B	N/A (bookkeeping)
BZREF12C	N/A (bookkeeping)
BZREF13A	N/A (bookkeeping)
BZREF13B	N/A (bookkeeping)
BZREF13C	N/A (bookkeeping)
BZREF14A	N/A (bookkeeping)

Variable omitted	Variable to use
BZREF14B	N/A (bookkeeping)
BZREF14C	N/A (bookkeeping)
BZREF14D	N/A (bookkeeping)
BZREF14E	N/A (bookkeeping)
BZREF14F	N/A (bookkeeping)
BZREF15A	N/A (bookkeeping)
BZREF9A	N/A (bookkeeping)
BZREF9B	N/A (bookkeeping)
BZREF9C	N/A (bookkeeping)
Z1ACROS	N/A (confidentiality)
Z1AMPM4	Z1VTM24
Z1AMPM5	Z1BDTM24
Z1BLDRTM	Z1BDTM24
Z1ID	HABCID
Z1LINK	N/A (Bookkeeping)
Z1LMAPM	Z1MHM24
Z1MHM	Z1MHM24
Z1VTM	Z1VTM24
Z2ACROS	N/A (confidentiality)
Z2ACROS2	N/A (confidentiality)
Z2ACROS3	N/A (confidentiality)
Z2ACROS4	N/A (confidentiality)
Z2ACROS5	N/A (confidentiality)
Z2ACROS6	N/A (confidentiality)
Z2ACROS7	N/A (confidentiality)
Z2ACROS8	N/A (confidentiality)
Z2ID	HABCID
Z2ID2	HABCID
Z2ID3	HABCID
Z2ID4	HABCID
Z2ID5	HABCID
Z2ID6	HABCID
Z2ID7	HABCID
Z2ID8	HABCID
Z2LINK	N/A (bookkeeping)
Z2SCAN1	WBSCANID, WBMODE
Z2SCAN3	WBSCANID, WBMODE
Z3ACROS	N/A (confidentiality)
Z3ID	HABCID
ZAACROS	N/A (confidentiality)
ZAACROS2	N/A (confidentiality)
ZAC1PHON	N/A (confidentiality)
ZAC2PHON	N/A (confidentiality)
ZACITELE	N/A (confidentiality)
ZAEWHRS	ZAEWTIM

Variable omitted	Variable to use
ZAEWMINS	ZAEWTIM
ZAHCPHON	N/A (confidentiality)
ZAID	HABCID
ZAID2	HABCID
ZALINK	N/A (bookkeeping)
ZAMADATE	N/A (bookkeeping)
ZAMATELE	N/A (confidentiality)
ZAREF23A	N/A (bookkeeping)
ZAREF23B	N/A (bookkeeping)
ZAREF23C	N/A (bookkeeping)
ZAREF24A	N/A (bookkeeping)
ZAREF24B	N/A (bookkeeping)
ZAREF24C	N/A (bookkeeping)
ZAREF25A	N/A (bookkeeping)
ZAREF25B	N/A (bookkeeping)
ZAREF25C	N/A (bookkeeping)
ZAREF26A	N/A (bookkeeping)
ZAREF26B	N/A (bookkeeping)
ZAREF26C	N/A (bookkeeping)
ZAREF27A	N/A (bookkeeping)
ZAREF27B	N/A (bookkeeping)
ZAREF27C	N/A (bookkeeping)
ZAREF28A	N/A (bookkeeping)
ZAREF28B	N/A (bookkeeping)
ZAREF28C	N/A (bookkeeping)
ZAREF29A	N/A (bookkeeping)
ZAREF29B	N/A (bookkeeping)
ZAREF29C	N/A (bookkeeping)
ZAREF29D	N/A (bookkeeping)
ZAREF29E	N/A (bookkeeping)
ZAREF29F	N/A (bookkeeping)
ZAREF30A	N/A (bookkeeping)

Appendix II

18-MONTH CALCULATED VARIABLES

Variable	Variable Description	Grouping	Page
CSAINDEX	Climbing stairs ability index	Self-Reported Function Calculated Vars.	24
EASE1F	Ease climbing 1 flight	Self-Reported Function Calculated Vars.	24
EASE1M	Ease walking 1 mile	Self-Reported Function Calculated Vars.	23
EASE2F	Ease climbing 2 flights	Self-Reported Function Calculated Vars.	24
EASEQM	Ease walking 1/4 mile	Self-Reported Function Calculated Vars.	23
WKAINDEX	Walking ability index	Self-Reported Function Calculated Vars.	24

Self-Reported Function Calculated Variables

Investigator Name:Eleanor Simonsick

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
EASEQM	Ease walking 1/4 mile	Recode of BLDWQMEZ where 3 is easiest; imputations applied for missing BLDWQMEZ	If BLDWQMYN in (0,7,8) then EASEQM=7-BLDWQMEZ If BLDWQMYN=1 then EASEQM=4-BLDWQMDF	**If BLDWQMYN=9 and (BLMNRS>0 or BLMNRS4 in (1,2)) then BLDMQMYN=1;** **If BLDWQMEZ=8 and BLDWQMYN≠8 then BLDWAQMDF=2;** **If BLDWQMEZ=8 and BLDWQMYN≠8 then BLDWAQMEZ=2;** **If BLDWQMYN in (0,7,8) and BLDWQMEZ<0 then EASEQM=4;** **If (BLDWQMYN=0 and BLDWQMEZ<0) then EASEQM=7-BLDW1MEZ;** **if (BLDWQMYN=0 and BLDWQMEZ<0) and BLDW1MEZ<0 and (BLDW1MYN=1 or BLDW1MYN=8 or BLDW1MYN≤.Z) then EASEQM=4;** **if (BLDWQMYN=0 and BLDWQMEZ<0) and (BLDW1MYN=0 and BLDW1MEZ≤.Z) then EASEQM=5** **if BLDWQMYN=1 and BLDWQNDF<0 then EASEQM=7-BLDWQMEZ;** **if BLDWQMYN=1 and BLDWQNDF<0 and BLDWQMEZ<0 then EASEQM=2;** **if BLDWQMYN<0 and BLDWQMDF>0 then EASEQM=4-BLDWQMDF;** **if BLDWQMYN<0 and BLDWQMEZ>0 then EASEQM=7-BLDWQMEZ;** **if BLDWQMYN=8 and BLD2QMEZ=8 then EASEQM=4;** **if BLDWQMYN=9 and BLMNRS<0 and (BLMNRS4<0 or BLMNRS4=8) then EASEQM=.**	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

EASE1M	Ease walking 1 mile	Recode of BLDW1MEZ where 3 is easiest; imputations applied for missing BLDW1MEZ	If BLDW1MYN=1 then EASE1M=0;
			if BLDW1MEZ=3 then EASE1M=1;
			if BLDW1MEZ=2 then EASE1M=2;
			if BLDW1MEZ=1 then EASE1M=3
				If BLDW1MYN=8 and (BLDW1MEZ<0 or BLDW1MEZ=8) then EASE1M=1;
				if BLDW1MYN≤.Z and BLDW1MEZ≤.Z then EASE1M=EASEQM-4;
				if BLDW1MYN=0 and BLDW1MEZ≤.Z then EASE1M=EASEQM-4;
				if BLDWQMYN=1 then EASE1M=0;
				if EASEQM > 0 and (EASEQM-3 < EASE1M) and EASEQM≤3 then EASE1M=0, else
				If EASEQM-3<EASE1M then EASE1M=EASEQM-3;
				If BLDW1MYN=8 and BLDW1MEZ in (1,2,3) then EASE1M=4-BLDW1MEZ;
				If BLDW1MYN=0 and BLDW1MEZ=8 then EASE1M=EASEQM-4;
					3=very easy
					2=somewhat easy
					1=not that easy
					0=difficult

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
WKAINDEX	Walking ability index	Summary measure of self-reported walking ability.	WKAINDEX=EASEQM + EASE1M	**Imputed version of component variables used**	This scale ranges from 0 (unable) to 9 (very easy)
EASE1F	Ease climbing 1 flight	Recode of BLDW10EZ where 6 is easiest; imputations applied for missing BLDW10EZ	EASE1F=7-BLDW10EZ; If BLDW10YN=1 then EASE1F=4-BLDIF	**If BLDW10YN=9 then EASE1F=.;** **If BLDW10EZ=8 then BLDW10EZ=2;** **If BLDIF=8 then BLDIF=2;** **If BLDW10EZ<0 then EASE1F=7-BLDW20EZ;** **If BLDW10YN=1 and (BLDIF=8 or BLDIF<0) then EASE1F=2;** **If BLDW10YN=0 and BLDW10EZ<0 and BLDW10EZ<0 then EASE1F=4;** **if EASE1F=. and BLDW10YN≠9 and BLDW20YN>0 and (BLDW20YN=1 or BLDW20YN=8 or BLDW20YN≤.Z) THEN EASE1F=4;** **if EASE1F=. and BLDW20YN=0 and BLDW20EZ≤.Z then EASE1F=5**	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

EASE2F	Ease climbing 2 flights	Recode of BLDW20EZ where 3 is easiest; imputations applied for missing BLDW20EZ	If BLDW20YN=1 then EASE2F=0;
			if BLDW20EZ=3 then EASE2F=1;
			if BLDW20EZ=2 then EASE2F=2;
			if BLDW20EZ=1 then EASE2F=3
				If (BLDW20YN=8 or BLDW20YN<0) and (BLDW20EZ<0 or BLDW20EZ=8) and EASE1F>0 then EASE2F=1;
				if BLDW20YN≤.Z and BLDW20EZ≤.Z then EASE2F=EASE1F-4;
				if BLDW20YN=0 and (BLDW20EZ≤.Z or BLDW20EZ=8) and EASE1F>0 then EASE2F=EASE1F-4;
				if BLDW10YN=1 then EASE2F=0;
				if EASE1F-3 < EASE2F and EASE1F≤3 then EASE2F=0, else
				If EASE1F-3 < EASE2F then EASE2F=EASE1F-3
					3=very easy
					2=somewhat easy
					1=not that easy
					0=difficult

CSAINDEX	Climbing stairs ability index	Summary measure of self-reported walking ability.	CSAINDEX=EASE1F + EASE2F	**Imputed version of component variables used**	This scale ranges from 0 (unable) to 9 (very easy)

```
*********************************************************************;
**  SRFCN_SA.SAS                                                   **;
**                                                                 **;
**  HABC SEMI ANNUAL TELEPHONE CONTACT SELF-REPORT FUNCTION        **
**  CALC VAR CODE                                                  **;
**                                                                 **;
**  Creates the following variables for 6mo visit:                 **;
**     EASEQM:   ease of walking 1/4 mile                          **;
**     EASE1M:   ease of walking 1 mile                            **;
**     EASE1F:   ease of climbing 1 flight                         **;
**     EASE2F:   ease of climbing 2 flights                        **;
**     TIREDQM:  get tired walking 1/4 mile                        **;
**     TIRED1F:  get tired walking 1 mile                          **;
**     CSAINDEX: climbing stairs ability index                     **;
**     WKAINDEX: walking ability index                             **;
**                                                                 **;
** Adapted from Fran Harris Y2 code: srfcn_y2.sas                  **;
**                                                                 **;
** Laura Akin     10/25/2001                                       **;
**                                                                 **;
*********************************************************************;
title2 'Program: SRFCN_SA.SAS';
OPTIONS PAGESIZE=50 LINESIZE=116 NOFMTERR nocenter;
*SELF-REPORT FUNCTION PROGRAM CODE;
%include 'i:\habc_sas\programs\init.sas';
libname calc  v6 'i:\habc_sas\calculated variables\datasets\semiannual';
data calc.srfcn_sa(keep=habcid visit easeqm ease1m ease1f ease2f tiredqm tired1f
csaindex wkaindex)
          SRFCN_SA;  ***six month visit table***;
  set habc2.BL(keep=habcid BLCONTAC BLdwqmyn BLdwqmdf BLmnrs BLmnrs4 BLdwqmez
                          BLdwqmt2 BLdw1myn BLdw1mez BLdw10yn BLdif
                          BLmnrs2 BLmnrs3 BLdw10ez BLdw10wx BLdw20yn
                          BLdw20ez);
  rename blcontac=visit;
*EASEQM: CODE FOR EASE OF WALKING 1/4 MILE
IF EASE LEVEL MISSING, EASE LEVEL WALKING 1 MILE WAS ASSIGNED. IF NO EASE LEVEL
FOR WALKING
1M WAS CODED AND BLDW1MYN WAS YES, DONT KNOW, OR MISSING THEN NOT THAT EASY WAS
ASSIGNED. IF NO
EASE LEVEL FOR WALKING 1M WAS CODED AND BLDW1MYN WAS NO AND BLDW1MEZ WAS MISSING
THEN SOMEWHAT
EASY WAS ASSIGNED.  THE 4 CASES WHO REPORTED DIFFICULTY WERE RECODED TO NOT THAT
EASY FOR QM
AND DIFFICULTY FOR 1M;
IF BLDWQMYN=9 AND (BLMNRS>0 OR BLMNRS4 IN(1,2)) THEN BLDWQMYN=1;
IF BLDWQMEZ=8 and BLdwqmyn ne 8 THEN BLDWQMEZ=2;
IF BLDWQMDF=8 and BLdwqmyn ne 8 THEN BLDWQMDF=2;
IF BLDWQMYN IN (0,7,8) THEN EASEQM=7-BLDWQMEZ;
IF (BLDWQMYN=0 AND BLDWQMEZ<0) THEN EASEQM=7-BLDW1MEZ;
IF (BLDWQMYN=0 AND BLDWQMEZ<0) AND BLDW1MEZ<0 AND (BLDW1MYN=1 OR BLDW1MYN=8
OR BLDW1MYN<=.z) THEN EASEQM=4;
IF (BLDWQMYN=0 AND BLDWQMEZ<0) AND (BLDW1MYN=0 AND BLDW1MEZ<=.z)
THEN EASEQM=5;
IF BLDWQMYN=1 THEN EASEQM=4-BLDWQMDF;

IF BLDWQMYN=1 AND BLDWQMDF<0 THEN EASEQM=7-BLDWQMEZ;
IF BLDWQMYN=1 AND BLDWQMDF<0 AND BLDWQMEZ<0 THEN EASEQM=2;
IF BLDWQMYN<0 AND BLDWQMDF>0 THEN EASEQM=4-BLDWQMDF;
```

```
IF BLDWQMYN<0 AND BLDWQMEZ>0 THEN EASEQM=7-BLDWQMEZ;

if BLdwqmyn=8 and BLdwqmez=8 then easeqm=4;
IF BLDWQMYN=9 AND BLMNRS<0 AND (BLMNRS4<0 OR BLMNRS4=8) THEN EASEQM=.;

*EASE1M:  CODE FOR EASE OF WALKING 1 MILE. AS SELF-REPORTED WALKING ABILITY IS A
KEY DEPENDENT
MEASURE IN HEALTH ABC, MISSING VALUES WERE RECODED TO NON-MISSING WHENEVER A
REASON
GUESS COULD BE MADE BASED ON OTHER AVAILABLE INFORMATION. SEE BELOW FOR CODE AND
RECODING RULES FOR MISSING VALUES;

IF BLDW1MYN=1 THEN EASE1M=0;
  ELSE IF BLDW1MEZ=3 THEN EASE1M=1;
  ELSE IF BLDW1MEZ=2 THEN EASE1M=2;
  ELSE IF BLDW1MEZ=1 THEN EASE1M=3;

*MISSING VALUE RECODES;
IF BLDW1MYN=8 AND (BLDW1MEZ<0 OR BLDW1MEZ=8) THEN EASE1M=1;
IF BLDW1MYN<=.z AND BLDW1MEZ<=.z AND EASEQM=4 THEN EASE1M=0;
IF BLDW1MYN<=.z AND BLDW1MEZ<=.z AND EASEQM=5 THEN EASE1M=1;
IF BLDW1MYN<=.z AND BLDW1MEZ<=.z AND EASEQM=6 THEN EASE1M=2;
IF BLDW1MYN=0 AND BLDW1MEZ<=.z AND EASEQM=4 THEN EASE1M=0;
IF BLDW1MYN=0 AND BLDW1MEZ<=.z AND EASEQM=5 THEN EASE1M=1;
IF BLDW1MYN=0 AND BLDW1MEZ<=.z AND EASEQM=6 THEN EASE1M=2;
IF BLDWQMYN=1 THEN EASE1M=0;

*IN SOME CASES THE AMOUNT OF EASE REPORTED FOR WALKING 1 MILE WAS GREATER THAN
THE AMOUNT OF EASE REPORTED FOR 1/4 MILE.  THE CODE BELOW DOWNGRADES THE EASE
LEVEL REPORTED FOR 1M TO THAT REPORTED FOR 1/4M;
IF EASEQM GT 0 AND ((EASEQM-3) LT EASE1M) THEN DO;
 IF EASEQM LE 3 THEN EASE1M=0; ELSE
 EASE1M=EASEQM-3;
END;
if BLdw1myn=8 and BLdw1mez in (1,2,3) then ease1m=4-BLdw1mez;
if BLdw1myn=0 and BLdw1mez=8 then ease1m=easeqm-4;

*CODE TO CREATE A SUMMARY MEASURE OF SELF-REPORTED WALKING ABILITY. THIS
SCALE WILL ULTIMATELY RANGE FROM 0 TO 9, BUT AT BASELINE IT RANGES FROM
4-9, AS NO ONE HAS DIFFICULTY. THIS SCALE CAN BE CREATED IN TWO WAYS: 1) KEYING
OFF THE RESPONSE TO EASE1M AND ONLY LOOKING AT EASEQM WHEN DIFFICULTY IS
REPORTED FOR 1M OR 2) SUMMING THE RESPONSES TO THE TWO QUESTIONS. I
DID IT BOTH WAYS AND FOUND THE LATTER APPROACH SUPERIOR;

WKAINDEX=EASEQM + EASE1M;

***TIREDQM;

*IF BLDWQMT2<0 THEN TIREDQM=.;
*IF BLDWQMT2=8 OR BLDWQMT2=9 THEN TIREDQM=1;
*IF BLDWQMT2=0 THEN TIREDQM=0;
*IF BLDWQMT2=1 THEN TIREDQM=1;
```

```
*CODE FOR EASE OF CLIMBING STAIRS;

*EASE1F;
IF BLDW10YN=9 THEN DO; EASE1F=.; EASE2F=.; END;
IF BLDW10EZ=8 THEN BLDW10EZ=2;
IF BLDIF=8 THEN BLDIF=2;
EASE1F=7-BLDW10EZ;
IF BLDW10EZ<0 THEN EASE1F=7-BLDW20EZ;
IF BLDW10YN=1 THEN EASE1F=4-BLDIF;
IF BLDW10YN=1 AND (BLDIF=8 OR BLDIF<0) THEN EASE1F=2;
IF BLDW10YN=0 AND BLDW10EZ<0 AND BLDW10EZ<0 THEN EASE1F=4;

IF EASE1F=. AND BLDW10YN NE 9 AND BLDW10YN>0 AND
  (BLDW20YN=1 OR BLDW20YN=8 OR BLDW20YN<=.z OR BLDW20YN<=.z)
 THEN EASE1F=4;
IF EASE1F=. AND BLDW20YN=0 AND BLDW20EZ<=.z THEN EASE1F=5;

*EASE2F;
IF BLDW20YN=1 THEN EASE2F=0;
  ELSE IF BLDW20EZ=3 THEN EASE2F=1;
  ELSE IF BLDW20EZ=2 THEN EASE2F=2;
  ELSE IF BLDW20EZ=1 THEN EASE2F=3;
IF (BLDW20YN=8 OR BLDW20YN<0)AND (BLDW20EZ<0 OR BLDW20EZ=8) AND EASE1F>0 THEN
EASE2F=1;
IF BLDW20YN<=.z AND BLDW20EZ<=.z AND EASE1F=4 THEN EASE2F=0;
IF BLDW20YN<=.z AND BLDW20EZ<=.z AND EASE1F=5 THEN EASE2F=1;
IF BLDW20YN<=.z AND BLDW20EZ<=.z AND EASE1F=6 THEN EASE2F=2;
IF BLDW20YN=0 AND (BLDW20EZ<=.z OR BLDW20EZ=8) AND EASE1F>0 THEN EASE2F=EASE1F-
4;
IF BLDW10YN=1 THEN EASE2F=0;

IF .z<EASE1F<=3 THEN EASE2F=0; ELSE
IF (EASE1F-3) LT EASE2F THEN EASE2F=EASE1F-3;

*CODE TO CREATE A SUMMARY MEASURE OF SELF-REPORTED STAIR CLIMBING ABILITY. THIS
SCALE WILL
RANGE FROM 0 TO 9, BUT AT BASELINE IT RANGES FROM 4-9;
CSAINDEX=EASE1F + EASE2F;

*IF BLDW10WX=8 OR BLDW10WX=9 THEN TIRED1F=1;
*IF BLDW10WX=0 THEN TIRED1F=0;
*IF BLDW10WX=1 THEN TIRED1F=1;

LABEL
EASEQM='EASE WALKING 1/4 MILE, 6=VERY EASY'
EASE1M='EASE WALKING 1 MILE, 3=VERY EASY'
WKAINDEX='WALKING ABILITY INDEX, 9=BEST'
/*TIREDQM='GETS TIRED WALKING 1/4 MILE, 1=YES'*/
EASE1F='EASE CLIMBING 1 FLIGHT, 6=VERY EASY'
EASE2F='EASE CLIMBING 2 FLIGHTS, 3=VERY EASY'
CSAINDEX='CLIMBING STAIRS ABILITY INDEX, 9=BEST'
/*TIRED1F='GETS TIRED CLIMBING 1 FLIGHT, 1=YES'*/;

FORMAT EASE1F EASE2F EASEQM EASE1M CSAINDEX WKAINDEX SPMISS.
       /*TIRED1F TIREDQM YNDK.*/;
RUN;
```

Documentation for Year 2 Medication Inventory Form Data

(Y2MIF, Y2MIFCOD)

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YEAR 2 MEDICATION INVENTORY FORM DATA (Y2MIF and Y2MIFCOD)

1. General description

The following SAS datasets related to medication use are included in this data release (version 2.2):

Y2MIF	Year 1 Medication Inventory Forms data
Y2MIFCOD	Year 1 MIF data with 1 record per ingredient/participant pair
Y2RxCalc	Calculated medication use variables based on Year 2 MIF data

The Y2MIF file contains information about the participants enrolled in the study gathered from Section B of the Medication Inventory Form. This file contains 15,966 records and has multiple records per participant. The Y2MIFCOD file maps each individual ingredient that each participant is taking to the participants (i.e., one record per participant per drug/ingredient pair). This file contains 18,820 observations and has multiple records per participant.

The Y2RxCalc file contains 56 indicator and categorical variables created by Health ABC investigators to indicate baseline usage of a wide variety of medication categories. Documentation showing how these variables were created can be found in Appendix III. These variables were corrected and updated as of version 2.22.

The analyst is cautioned to read the documentation in Appendix III to be sure the medications captured by the variable are really what's needed for their analysis before using these variables. Some variables, (e.g. Y2OSTDRG) have names that may imply a reason for use, but in most cases actually refer to a class or classes of drugs often used for that reason, without regard to the reason the medication was prescribed for that particular participant. Participants frequently give an obviously erroneous reason for use or simply state they they do not know why they are taking the medication, so in most cases MIFREAS cannot be taken into account. For a few variables, notably Y2DEPDRG, Y2ALPHBK, and Y2PRSDRG, reason for use was taken into account because drugs in these categories are frequently used for other reasons. Y2DEPDRG was created primarily to determine baseline prevalent depression, so it was important to limit it to reasons for use indicative of depression. The separate antidepressant drug class variables (e.g. Y2SSRI, Y2MAOINH) are not limited by reason for use. Among men, terazosin, doxazosin, and prazosin were approximately equally often prescribed as an antihypertensive as for BPH, so the reason for use was taken into account in dividing these meds between Y2ALPHBK and Y2PRSDRG. Women were assumed always to be taking these for hypertension.

2. Cross reference of dataset names with exact source

A complete list of variable names for the MIF datasets can be found under the “Proc Contents for All Datasets” link (search under Y2MIF or Y2MIFCOD) or by searching the Datadict file (sort by form or database). Variable names can also be found on the annotated forms. Please note that not all variables on the forms are contained in the datasets. All variables not found in the dataset are listed in Appendix I. Alternate variables to use (if applicable) are also listed.

3. Dataset structure and contents

The Y2MIF and Y2MIFCOD files contain multiple observations per participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh*

4. Condition of data

a. **Known data errors**: MIFDATE, a previously unused field has now been populated from MADATE (in Y2ClnVis). Although the WHAS dictionary contains a STRENGTH variable, and the MIF form has a separate variable for strength (MIFSTREN), neither is usable for analysis, and both have been dropped. Dose-response analysis should key on the strength-specific medication name and code. For example, medications with different strengths will have different codes for each.

b. **Strengths and weaknesses of dataset items:** There are 20 medication records that could not be coded except as "Uncodable Medication" (MIFDRCOD=9999716) because information from the participants was incomplete on the Medication Inventory Form, and could not be retrieved during editing. Most of these will never be coded more precisely. Year 2 data are now completely edited, and all medication records are mapped to their ingredients.

   Due to the way RxCalc variables were originally created, two slightly counter-intuitive groupings exist: Y2THIAZ, the thiazide diuretics, does not include indapamide, which is instead represented by its own calculated variable Y2INDAPA. In addition, the variable Y2ASAPLT (platelet aggregation inhibitors including aspirin) does not include ticopidine, which is instead grouped under other anti-platelet medications. These anomalies were not corrected so that existing algorithms would not be thrown off.

   MIF collection in Health ABC, while very complete, has the disadvantage that the medication dictionary does not contain all brands of multivitamins, and MIF coders are allowed to code any multivitamin (containing 3 or more ingredients) as simply "multivitamin." The vast majority of multivitamins in Health ABC are coded in this way, thus hampering any analysis that wishes to look at supplementation of specific vitamins.

   As in previous versions of the dataset, a merged dataset (Y2MIFCOD.sd7) has been created for the analysts' convenience. This file has one record per participant/ingredient pair.

   In addition, a MIF Legend (and frequencies for the Year 2 MIF data) has been created (Y2MIFLegend.xls in the MIF Legend folder). This legend can be very helpful for

* Must link to Health ABC participant history file (PH) to add this variable.

identifying participants taking certain classes of medication. It is also reproduced in paper form in Appendix II. Previous versions of this legend used the number of participants originally enrolled in Health ABC (3075) as the denominator for the column entitled "% Tot Ppts." However, since some participants died and others missed their Year 2 visit, it is more accurate to use the number of participants who had their medications inventoried (2922) as the denominator. The current legend uses this more accurate denominator, and this convention will be implemented in all future datasets starting with the next version of each.

The following comments about corrections and continuing anomalies in the Y2MIFCOD can best be understood by referring to this hierarchical legend.

Ingredients are mapped to medications through use of the IDIS dictionary for consistency with the WHAS data. From time to time, IDIS re-maps ingredients from one code to another, as well as adding new medications and new ingredients to their dictionary. Every effort has been made to update these codes throughout the dataset; in particular to eliminate duplicate codes for single ingredients. However, some ingredients still have more than one ingredient code because of the way IDIS has structured its hierarchy. For example, calcium appears both under "calcium supplements" (third level hierarchy 40121200) and under "antacids and adsorbents" (second level hierarchy 56040000), depending on its reason for use. In addition, some ingredients may be used for two very different formulations. Most notably, "conjugated estrogens" (INGCODE= 68160007) is used both for oral and topical estrogen. The analyst should make use of the formulation code (MIFFORM) to ensure that the data are subsetted to the desired group of medications.

IDIS has several non-standard third-level hierarchy codes, which cannot be changed unless IDIS changes them. The analyst is reminded to be careful with how these are specified in any algorithm used to pull out particular medications. These non-standard codes are listed below:

1. The third-level heading "antifungals-imidazoles" has the non-standard code of 8120501. The third level of the hierarchy usually ends in a double zero. In addition, the previous third-level heading is "antibiotics-antifungals" (81204xx), which obviously should include imidazole antifungals. Therefore, to search for the general class of antifungal medications, including both imidazole and non-imidazole antifungals, you should search for both 81204xx and 81205xx.

2. The third-level heading "antibiotics-other" (81228xx) contains more than 100 fourth-level ingredients, so to search for the general class of "other antibiotics" you should include both 81228xx and 81229xx. Fortunately, you would normally only include "other antibiotics" along with all antibiotics, by using the second-level heading "antibiotics" (812xxxx).

3. The third-level heading "NSAID" (280804xx) contains more than 100 fourth-level ingredients, so you should include both 280804xx and 280805xx in your search for NSAIDs.

4. IDIS appears to be in the process of creating a COX2 inhibitor hierarchy, but has not yet created the third-level heading for it. Therefore, the single COX2 inhibitor used by Health ABC participants in Year 2 (Celecoxib) appears with a non-standard third-level heading "Celecoxib" (28080601)

5. The third-level heading "salicylates" has the non-standard code of 28080750, and it includes ingredients coded as 2808076x and 2808077x.

6. The first-level heading "enzymes" (44xxxxxx) also includes Enzyme Inhibitors, and so might more clearly be headed "Enzymes and Enzyme Inhibitors." Enzymes alone are a second-level category also called "enzymes." For "enzymes" you should search for 4400xxxx, while for "enzyme inhibitors" you should search for 4410xxxx.

7 There is a third-level heading "vitamins" (880000xx) which contains only one fourth-level ingredient found in the Year 2 database, Levo-carnitine (88000003), but does not include Vitamin A Derivatives (88040000), Vitamin B Complex (88080000), etc. To get all vitamins, you should search for the first-level heading 88xxxxxx.

8. The catch-all category "unclassified therapeutic agents" is another heading that contains more than 100 fourth-level ingredients. Any ingredient between 9200xxxx and 9250xxxx falls under the general third-level heading "unclassified therapeutic agents." Another third-level subheading of "unclassified therapeutic agents" is "herbal medicines" (92510000). Bisphosphonates have now been given a separate second-level heading, albeit still under "unclassified therapeutic agents." Alendronate has a new ingredient number (92600100), and two other bisphosphonates (EB-1053 and pamidronate) taken by Health ABC participants in Year 2 also have new ingredient numbers (92600103 and 92600108, respectively).

Investigators finding anomalies in the medication dataset are urged to report these anomalies to the Coordinating Center (HABCHelp@psg.ucsf.edu).

c. Missing Value Conventions: See Special Missing Value Codes below for special missing value codes applied.

5. Dataset index formulation and key variable mapping The Y2MIF file is sorted by HABCID, which is a unique identifier for each participant. The variable MIFDRCOD is a text field. A numeric version of this variable is DRCODE, which can be used to merge with the MIF dictionaries.

6. General strategies for manipulating and merging the data The MIF and WHAS files are merged by DRCODE (drug code); WHAS contains drcodens (non-specific drug code) which links to IDIS; IDIS contains ingcode (ingredients code), which links to DRVOC, which contains the description of the ingredients (ingdesc). The file Y2MIFCOD has one record per participant/ingredient pair using this linkage. Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable

is most useful for merging subsets of either Y2MIF or Y2MIFCOD with other datasets, taking care to avoid one-to-many merge problems.

SPECIAL MISSING VALUE CODES

SAS allows for stratification of missing values. The following missing values have been assigned:

. =’Missing Form’
.A='A:Not Applicable'
.M='M:Missing'
.N='N:Not Required'

Description

. : Missing Form
Used when a value is missing because the entire form has not been entered.

A: Not Applicable
Used when a value is missing but the value is not required (due to simple skip pattern logic)

M:Missing
Used to flag missing values when the value is required (i.e., true missing values).

N:Not Required

Used when a value is missing but the value is not required (not due to simple skip pattern logic). For example, for checkbox variables which are “Check all that apply”: each one, individually, is not required. In these cases, a summary calculated variable (not included on the CD ROM) was used to edit missing responses. Some variables whose skip pattern logic is non-standard (i.e., the skip pattern involves several variables and forms) also have .N flags when missing, whether or not a response was required due to the skip pattern.

General Strategies for Using Special Missing Values

In SAS, when using special missing values in logical expressions, the missing value is no longer only equal to ‘.’ To express a value not equal to missing, the code should be written >.z or alternately: gt .z. .Z is the greatest value of missing available in SAS. To express a value equal to missing, the code should be written: <= .z or alternately: le .z

Appendix I
Dropped Variables and Alternates

Variable omitted	Variable to use
MAID	HABCID
MAACROS	N/A (confidentiality)
MIFID	HABCID
MIFSTREN	use strength-specific medication names and codes
STRENGTH	use strength-specific medication names and codes

Appendix II
Year 2 MIF Legend and Frequencies for Y2MIFCOD

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
2000000	ANTIGOUT AGENTS	78	0.41	71	2.42
2000000	ANTIGOUT AGENTS	78	0.41	71	2.42
2000000	ANTIGOUT AGENTS	18	0.10	18	0.61
2000002	COLCHICINE	18	0.10	18	0.61
2000200	ANTIGOUT AGENTS-URICOSURIC	8	0.04	8	0.27
2000203	PROBENECID	7	0.04	7	0.24
2000204	SULFINPYRAZONE	1	0.01	1	0.03
2000400	ANTIGOUT-XANTH OXIDASE INHIB	52	0.28	52	1.78
2000401	ALLOPURINOL	52	0.28	52	1.78
4000000	ANTIHISTAMINES	300	1.59	265	9.05
4000000	ANTIHISTAMINES	300	1.59	265	9.05
4000000	ANTIHISTAMINES	300	1.59	265	9.05
4000000	ANTIHISTAMINES	9	0.05	9	0.31
4000002	ANTAZOLINE	2	0.01	2	0.07
4000003	CHLORPHENIRAMINE	37	0.20	34	1.16
4000006	DIPHENHYDRAMINE	98	0.52	93	3.18
4000010	PROMETHAZINE	4	0.02	4	0.14
4000012	CYPROHEPTADINE	3	0.02	3	0.10
4000013	TRIPELENNAMINE	1	0.01	1	0.03
4000016	FEXOFENADINE	20	0.11	20	0.68
4000027	AZELASTINE	5	0.03	5	0.17
4000029	LORATADINE	69	0.37	69	2.36
4000030	LEVOCABASTINE	3	0.02	3	0.10
4000031	CETIRIZINE	16	0.09	16	0.55
4000054	CLEMASTINE	6	0.03	6	0.20
4000057	PYRILAMINE	1	0.01	1	0.03
4000061	PHENYLTOLOXAMINE	4	0.02	4	0.14
4000068	DOXYLAMINE	7	0.04	7	0.24
4000078	BROMPHENIRAMINE	3	0.02	3	0.10
4000083	DEXBROMPHENIRAMINE	1	0.01	1	0.03
4000092	PHENIRAMINE	8	0.04	8	0.27
4000099	TRIPROLIDINE	3	0.02	3	0.10
8000000	ANTIINFECTIVES	320	1.70	267	9.12
8040000	AMEBICIDES	1	0.01	1	0.03
8040000	AMEBICIDES	1	0.01	1	0.03
8040002	IODOQUINOL	1	0.01	1	0.03
8080000	ANTHELMINTICS	1	0.01	1	0.03
8080000	ANTHELMINTICS	1	0.01	1	0.03
8080096	HEXYLRESORCINOL	1	0.01	1	0.03

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
8120000	ANTIBIOTICS	208	1.11	183	6.25
8120000	ANTIBIOTICS	1	0.01	1	0.03
8120000	ANTIBIOTICS	1	0.01	1	0.03
8120200	ANTIBIOTICS-AMINOGLYCOSIDES	16	0.09	16	0.55
8120201	TOBRAMYCIN	3	0.02	3	0.10
8120203	NEOMYCIN	10	0.05	10	0.34
8120209	GENTAMICIN	3	0.02	3	0.10
8120400	ANTIBIOTICS-ANTIFUNGAL	13	0.07	11	0.38
8120403	GRISEOFULVIN	2	0.01	2	0.07
8120405	NYSTATIN	2	0.01	2	0.07
8120415	CICLOPIROX	3	0.02	3	0.10
8120417	TERBINAFINE	6	0.03	5	0.17
8120501	ANTIFUNGALS-IMIDAZOLES	22	0.12	22	0.75
8120502	CLOTRIMAZOLE	12	0.06	12	0.41
8120509	ITRACONAZOLE	3	0.02	3	0.10
8120512	KETOCONAZOLE	2	0.01	2	0.07
8120513	ECONAZOLE	1	0.01	1	0.03
8120514	FLUCONAZOLE	4	0.02	4	0.14
8120600	ANTIBIOTICS-CEPHALOSPORINS	22	0.12	22	0.75
8120601	CEPHALEXIN	18	0.10	18	0.61
8120622	CEFADROXIL	1	0.01	1	0.03
8120623	CEFACLOR	1	0.01	1	0.03
8120656	CEFTIBUTEN	1	0.01	1	0.03
8120661	CEFPROZIL	1	0.01	1	0.03
8121200	ANTIBIOTICS-MACROLIDES	25	0.13	25	0.85
8121201	ERYTHROMYCIN	9	0.05	9	0.31
8121217	AZITHROMYCIN	10	0.05	10	0.34
8121218	CLARITHROMYCIN	4	0.02	4	0.14
8121292	ERYTHROMYCIN ESTOLATE	2	0.01	2	0.07
8121600	ANTIBIOTICS-PENICILLINS	38	0.20	38	1.30
8121607	PENICILLIN G	1	0.01	1	0.03
8121609	PENICILLIN V	3	0.02	3	0.10
8121690	AMOXICILLIN	34	0.18	34	1.16
8122000	ANTIBIOTICS-QUINOLONES	31	0.16	29	0.99
8122003	NORFLOXACIN	2	0.01	2	0.07
8122004	CIPROFLOXACIN	19	0.10	19	0.65
8122007	OFLOXACIN	3	0.02	3	0.10
8122020	LEVOFLOXACIN	5	0.03	5	0.17
8122024	TROVAFLOXACIN	2	0.01	2	0.07
8122400	ANTIBIOTICS-TETRACYCLINES	26	0.14	26	0.89
8122404	TETRACYCLINE	8	0.04	8	0.27
8122489	MINOCYCLINE	2	0.01	2	0.07
8122491	DOXYCYCLINE	16	0.09	16	0.55

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
8122800	ANTIBIOTICS-OTHER	14	0.07	11	0.38
8122801	BACITRACIN	4	0.02	4	0.14
8122811	POLYMYXIN B	6	0.03	6	0.20
8122909	MUPIROCIN	3	0.02	3	0.10
8122927	LORACARBEF	1	0.01	1	0.03
8180000	ANTIVIRALS	9	0.05	8	0.27
8180000	ANTIVIRALS	9	0.05	8	0.27
8180001	AMANTADINE	2	0.01	2	0.07
8180010	ACYCLOVIR	3	0.02	3	0.10
8180061	PENCICLOVIR	1	0.01	1	0.03
8180071	VALACYCLOVIR	1	0.01	1	0.03
8180078	FAMCICLOVIR	1	0.01	1	0.03
8180085	VIDARABINE	1	0.01	1	0.03
8200000	PLASMODICIDES (ANTIMALARIALS)	39	0.21	39	1.33
8200000	PLASMODICIDES (ANTIMALARIALS)	39	0.21	39	1.33
8200002	QUININE	35	0.19	35	1.19
8200095	HYDROXYCHLOROQUINE	4	0.02	4	0.14
8240000	SULFONAMIDES	26	0.14	24	0.82
8240000	SULFONAMIDES	26	0.14	24	0.82
8240002	SULFASALAZINE	10	0.05	9	0.31
8240006	SULFAMETHOXAZOLE	11	0.06	11	0.38
8240086	SULFACETAMIDE	5	0.03	5	0.17
8320000	TRICHOMONACIDES	14	0.07	14	0.48
8320000	TRICHOMONACIDES	14	0.07	14	0.48
8320004	METRONIDAZOLE	14	0.07	14	0.48
8360000	URINARY GERMICIDES	13	0.07	11	0.38
8360000	URINARY GERMICIDES	13	0.07	11	0.38
8360001	METHENAMINE	6	0.03	5	0.17
8360003	NITROFURANTOIN	7	0.04	7	0.24
8400000	ANTIINFECTIVES-OTHER	9	0.05	9	0.31
8400000	ANTIINFECTIVES-OTHER	9	0.05	9	0.31
8400071	TRIMETHOPRIM	9	0.05	9	0.31
10000000	ANTINEOPLASTIC AGENTS	82	0.44	81	2.77
10040000	ANTINEOPLASTICS-ALKYLATING	1	0.01	1	0.03
10040000	ANTINEOPLASTICS-ALKYLATING	1	0.01	1	0.03
10040087	SARCOLYSIN	1	0.01	1	0.03
10080000	ANTIMETABOLITES	16	0.09	16	0.55
10080800	ANTIMETABOLITES-PURINE	2	0.01	2	0.07
10080806	AZATHIOPRINE	2	0.01	2	0.07
10081200	ANTIMETABOLITES-FOLIC ACID	14	0.07	14	0.48
10081255	METHOTREXATE	14	0.07	14	0.48

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
10100000	ANTINEOPLASTICS-HORMONAL	15	0.08	15	0.51
10100000	ANTINEOPLASTICS-HORMONAL	15	0.08	15	0.51
10100047	MEGESTROL	1	0.01	1	0.03
10100085	TAMOXIFEN	14	0.07	14	0.48
10120000	ANTINEOPLASTICS-OTHER	50	0.27	50	1.71
10120000	ANTINEOPLASTICS-OTHER	50	0.27	50	1.71
10120019	HYDROXYUREA	2	0.01	2	0.07
10120054	LEUPROLIDE	3	0.02	3	0.10
10120081	FINASTERIDE	45	0.24	45	1.54
12000000	AUTONOMIC AGENTS	1342	7.13	1022	34.89
12040000	PARASYMPATHOMIMETIC AGENTS	30	0.16	30	1.02
12040000	PARASYMPATHOMIMETIC AGENTS	30	0.16	30	1.02
12040002	BETHANECHOL	2	0.01	2	0.07
12040099	PILOCARPINE	28	0.15	28	0.96
12080000	PARASYMPATHOLYTIC AGENTS	142	0.75	117	3.99
12080000	PARASYMPATHOLYTIC AGENTS	137	0.73	112	3.82
12080001	ATROPINE	16	0.09	15	0.51
12080002	BELLADONNA	6	0.03	6	0.20
12080005	DICYCLOMINE	19	0.10	19	0.65
12080007	METHSCOPOLAMINE	1	0.01	1	0.03
12080008	PROPANTHELINE	2	0.01	2	0.07
12080009	SCOPOLAMINE	6	0.03	6	0.20
12080028	IPRATROPIUM BROMIDE	49	0.26	48	1.64
12080039	FLAVOXATE	1	0.01	1	0.03
12080047	CLIDINIUM	6	0.03	6	0.20
12080079	HYOSCYAMINE	31	0.16	28	0.96
12080800	ANTIPARKINSONIAN AGENTS	5	0.03	5	0.17
12080802	TRIHEXYPHENIDYL	1	0.01	1	0.03
12080804	ORPHENADRINE	2	0.01	2	0.07
12080806	BENZTROPINE	2	0.01	2	0.07
12120000	SYMPATHOMIMETIC AGENTS	241	1.28	206	7.03
12120000	SYMPATHOMIMETIC AGENTS	241	1.28	206	7.03
12120000	SYMPATHOMIMETIC AGENTS	14	0.07	14	0.48
12120001	EPHEDRINE	3	0.02	3	0.10
12120002	EPINEPHRINE	6	0.03	6	0.20
12120009	PHENYLEPHRINE	12	0.06	12	0.41
12120029	PIRBUTEROL	3	0.02	3	0.10
12120030	BITOLTEROL	1	0.01	1	0.03
12120047	SALMETEROL	24	0.13	24	0.82
12120066	ALBUTEROL	90	0.48	83	2.83
12120094	TERBUTALINE	1	0.01	1	0.03
12120095	METAPROTERENOL	2	0.01	2	0.07

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
12120096	PHENYLPROPANOLAMINE	37	0.20	35	1.19
12120098	PSEUDOEPHEDRINE	48	0.26	46	1.57
12160000	SYMPATHOLYTIC AGENTS	900	4.78	797	27.21
12160000	SYMPATHOLYTIC AGENTS	10	0.05	5	0.17
12160002	DIHYDROERGOTAMINE	1	0.01	1	0.03
12160003	ERGOTAMINE	3	0.02	3	0.10
12160091	DIHYDROERGOCORNINE	2	0.01	2	0.07
12160092	DIHYDROERGOCRYPTINE	2	0.01	2	0.07
12160093	DIHYDROERGOCRISTINE	2	0.01	2	0.07
12160100	BETA-ADRENERGIC BLOCKERS	595	3.16	570	19.46
12160107	LABETALOL	14	0.07	14	0.48
12160109	CARTEOLOL	15	0.08	15	0.51
12160112	METIPRANOLOL	38	0.20	38	1.30
12160114	BETAXOLOL	19	0.10	19	0.65
12160115	TIMOLOL	65	0.35	65	2.22
12160123	BISOPROLOL	16	0.09	16	0.55
12160137	ATENOLOL	172	0.91	172	5.87
12160145	METOPROLOL	144	0.77	144	4.92
12160146	NADOLOL	12	0.06	12	0.41
12160150	PROPRANOLOL	54	0.29	52	1.78
12160153	CARVEDILOL	10	0.05	10	0.34
12160167	PINDOLOL	1	0.01	1	0.03
12160169	ACEBUTOLOL	2	0.01	2	0.07
12160178	SOTALOL	7	0.04	7	0.24
12160184	PENBUTOLOL	2	0.01	2	0.07
12160189	LEVOBUNOLOL	24	0.13	24	0.82
12160400	ALPHA-ADRENERGIC BLOCKERS	295	1.57	287	9.80
12160401	TERAZOSIN	122	0.65	121	4.13
12160404	PRAZOSIN	35	0.19	32	1.09
12160411	TAMSULOSIN	30	0.16	30	1.02
12160419	DOXAZOSIN	108	0.57	106	3.62
12200000	SKELETAL MUSCLE RELAXANTS	29	0.15	29	0.99
12200000	SKELETAL MUSCLE RELAXANTS	29	0.15	29	0.99
12200001	CARISOPRODOL	2	0.01	2	0.07
12200005	METHOCARBAMOL	6	0.03	6	0.20
12200009	CYCLOBENZAPRINE	18	0.10	18	0.61
12200091	CHLORZOXAZONE	2	0.01	2	0.07
12200097	METAXALONE	1	0.01	1	0.03

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
14000000	BIOLOGICAL RESPONSE MODIFIERS	3	0.02	3	0.10
14000000	BIOLOGICAL RESPONSE MODIFIERS	3	0.02	3	0.10
14000000	BIOLOGICAL RESPONSE MODIFIERS	3	0.02	3	0.10
14000006	CSF GRANULOCYTE-MACROPHAG	1	0.01	1	0.03
14000022	BETA GLUCANS	1	0.01	1	0.03
14000041	ETANERCEPT	1	0.01	1	0.03
20000000	BLOOD FORMATION & COAGULATION	605	3.21	556	18.98
20040000	ANTIANEMIA AGENTS	439	2.33	426	14.54
20040000	ANTIANEMIA AGENTS	4	0.02	4	0.14
20040002	EPOETIN	4	0.02	4	0.14
20040400	IRON PREPARATIONS	435	2.31	424	14.48
20040400	IRON PREPARATIONS	11	0.06	11	0.38
20040404	FERROUS GLUCONATE	1	0.01	1	0.03
20040405	FERROUS FUMARATE	4	0.02	4	0.14
20040406	FERROUS SULFATE	38	0.20	38	1.30
20040409	IRON POLYSACCHARIDE COMPLEX	2	0.01	2	0.07
20040492	IRON	379	2.01	374	12.77
20120000	COAGULANTS AND ANTICOAGULANT	162	0.86	151	5.16
20120200	ANTICOAGULANTS-COUMARIN DER	138	0.73	127	4.34
20120208	WARFARIN	138	0.73	127	4.34
20120400	ANTICOAGULANTS-OTHER	8	0.04	8	0.27
20120408	TICLOPIDINE	8	0.04	8	0.27
20120600	PLATELET AGGREGAT INHIBITORS	15	0.08	15	0.51
20120645	CLOPIDOGREL	15	0.08	15	0.51
20121600	HEMOSTATICS	1	0.01	1	0.03
20121601	AMINOCAPROIC ACID	1	0.01	1	0.03
20400000	THROMBOLYTIC AGENTS	4	0.02	4	0.14
20400000	THROMBOLYTIC AGENTS	4	0.02	4	0.14
20400004	EICOSAPENTAENOIC ACID	4	0.02	4	0.14
24000000	CARDIOVASCULAR AGENTS	2485	13.20	1489	50.84
24040000	CARDIAC AGENTS	273	1.45	243	8.30
24040000	CARDIAC AGENTS	38	0.20	38	1.30
24040007	PROCAINAMIDE	4	0.02	4	0.14
24040008	QUINIDINE	14	0.07	14	0.48
24040011	TAURINE	2	0.01	2	0.07
24040021	MEXILETINE	4	0.02	4	0.14
24040023	MORICIZINE	2	0.01	2	0.07
24040024	DISOPYRAMIDE	2	0.01	2	0.07
24040034	PROPAFENONE	7	0.04	7	0.24
24040099	FLECAINIDE	3	0.02	3	0.10
24040100	CARDIAC GLYCOSIDES	235	1.25	227	7.75
24040104	DIGOXIN	224	1.19	221	7.55
24040220	AMIODARONE	11	0.06	11	0.38

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
24060000	ANTILIPEMIC AGENTS	502	2.67	496	16.93
24060000	ANTILIPEMIC AGENTS	10	0.05	10	0.34
24060009	CHOLESTYRAMINE RESIN	7	0.04	7	0.24
24060095	COLESTIPOL	3	0.02	3	0.10
24060200	ANTILIPEMIC AGTS-HMG COA REDU	462	2.45	462	15.77
24060202	ATORVASTATIN	126	0.67	126	4.30
24060203	CERIVASTATIN	7	0.04	7	0.24
24060204	LOVASTATIN	34	0.18	34	1.16
24060205	SIMVASTATIN	197	1.05	197	6.73
24060207	PRAVASTATIN	67	0.36	67	2.29
24060208	FLUVASTATIN	31	0.16	31	1.06
24060400	ANTILIPEMIC AGTS-FIBRIC ACID	30	0.16	30	1.02
24060403	GEMFIBROZIL	27	0.14	27	0.92
24060404	FENOFIBRATE	3	0.02	3	0.10
24080000	HYPOTENSIVE AGENTS	734	3.90	669	22.84
24080000	HYPOTENSIVE AGENTS	135	0.72	129	4.40
24080003	GUANETHIDINE	9	0.05	9	0.31
24080006	METHYLDOPA	16	0.09	16	0.55
24080010	RESERPINE	21	0.11	21	0.72
24080028	BRIMONIDINE	42	0.22	42	1.43
24080037	MINOXIDIL	4	0.02	4	0.14
24080063	GUANFACINE	8	0.04	8	0.27
24080064	CLONIDINE	32	0.17	32	1.09
24080081	DESERPIDINE	1	0.01	1	0.03
24080084	GUANABENZ	2	0.01	2	0.07
24080200	HYPOTENSIVE AGENTS-ACE INHIB	494	2.62	487	16.63
24080202	QUINAPRIL	79	0.42	79	2.70
24080203	CAPTOPRIL	35	0.19	35	1.19
24080208	ENALAPRIL	113	0.60	111	3.79
24080213	LISINOPRIL	172	0.91	169	5.77
24080214	RAMIPRIL	13	0.07	13	0.44
24080216	BENAZEPRIL	61	0.32	61	2.08
24080218	FOSINOPRIL	19	0.10	19	0.65
24080223	TRANDOLAPRIL	1	0.01	1	0.03
24080232	MOEXIPRIL	1	0.01	1	0.03
24080400	HYPOTENSIVE AGENTS-ANGIOTEN I	105	0.56	103	3.52
24080401	LOSARTAN	73	0.39	71	2.42
24080402	CANDESARTAN	1	0.01	1	0.03
24080403	VALSARTAN	21	0.11	21	0.72
24080405	IRBESARTAN	10	0.05	10	0.34

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
24120000	VASODILATING AGENTS	976	5.19	820	28.00
24120000	VASODILATING AGENTS	75	0.40	72	2.46
24120003	ALPROSTADIL	1	0.01	1	0.03
24120021	PENTOXIFYLLINE	27	0.14	27	0.92
24120091	DIPYRIDAMOLE	17	0.09	17	0.58
24120094	HYDRALAZINE	19	0.10	19	0.65
24120096	ISOXSUPRINE	1	0.01	1	0.03
24120101	SILDENAFIL	10	0.05	10	0.34
24120200	VASODILATORS-NITRATES	201	1.07	181	6.18
24120205	NITROGLYCERIN	97	0.52	91	3.11
24120207	ISOSORBIDE DINITRATE	40	0.21	39	1.33
24120212	ISOSORBIDE MONONITRATE	64	0.34	63	2.15
24120400	VASODILATORS-CA CHANNEL BLO(	700	3.72	689	23.52
24120406	NISOLDIPINE	9	0.05	9	0.31
24120410	DILTIAZEM	189	1.00	188	6.42
24120413	ISRADIPINE	9	0.05	9	0.31
24120415	NICARDIPINE	5	0.03	5	0.17
24120416	NIFEDIPINE	139	0.74	138	4.71
24120421	VERAPAMIL	127	0.67	125	4.27
24120422	AMLODIPINE	173	0.92	172	5.87
24120449	FELODIPINE	49	0.26	49	1.67
28000000	CENTRAL NERVOUS SYSTEM AGENTS	3010	15.99	1870	63.84
28080000	ANALGESICS & ANTIPYRETICS	2363	12.56	1733	59.17
28080000	ANALGESICS & ANTIPYRETICS	1	0.01	1	0.03
28080000	ANALGESICS & ANTIPYRETICS	1	0.01	1	0.03
28080400	NSAID	560	2.98	539	18.40
28080412	MECLOFENAMATE SODIUM	2	0.01	2	0.07
28080420	TOLMETIN	2	0.01	2	0.07
28080422	DICLOFENAC SODIUM	47	0.25	45	1.54
28080428	SULINDAC	15	0.08	15	0.51
28080437	PIROXICAM	7	0.04	7	0.24
28080455	ETODOLAC	23	0.12	23	0.79
28080459	NABUMETONE	46	0.24	46	1.57
28080463	INDOMETHACIN	14	0.07	14	0.48
28080466	OXAPROZIN	18	0.10	18	0.61
28080506	FENOPROFEN	1	0.01	1	0.03
28080507	FLURBIPROFEN	8	0.04	8	0.27
28080509	IBUPROFEN	227	1.21	226	7.72
28080512	KETOPROFEN	11	0.06	11	0.38
28080513	NAPROXEN	139	0.74	136	4.64
28080601	CELECOXIB	31	0.16	31	1.06
28080601	CELECOXIB	31	0.16	31	1.06

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
28080750	SALICYLATES	1141	6.06	1092	37.28
28080751	ASPIRIN	1097	5.83	1078	36.80
28080752	CHOLINE SALICYLATE	4	0.02	4	0.14
28080756	MAGNESIUM SALICYLATE	5	0.03	5	0.17
28080759	SALICYLAMIDE	12	0.06	12	0.41
28080760	SODIUM SALICYLATE	1	0.01	1	0.03
28080761	PHENYL SALICYLATE	6	0.03	5	0.17
28080764	SALSALATE	7	0.04	7	0.24
28080768	DIFLUNISAL	1	0.01	1	0.03
28080770	TROLAMINE SALICYLATE	8	0.04	8	0.27
28080800	ANALGESICS-OPIOID	87	0.46	86	2.94
28080819	MORPHINE	1	0.01	1	0.03
28080840	PROPOXYPHENE	55	0.29	55	1.88
28080854	TRAMADOL	17	0.09	17	0.58
28080881	OPIUM	1	0.01	1	0.03
28080883	OXYCODONE	12	0.06	12	0.41
28080892	PENTAZOCINE	1	0.01	1	0.03
28081200	ANALGESICS & ANTIPYRET-OTHER	543	2.89	493	16.83
28081219	KETOROLAC	3	0.02	3	0.10
28081221	ACETAMINOPHEN	516	2.74	475	16.22
28081231	ALCOHOL	23	0.12	22	0.75
28081290	ZOLMITRIPTAN	1	0.01	1	0.03
28120000	ANTICONVULSANTS	73	0.39	64	2.19
28120400	ANTICONVULS-BARBITURATES	24	0.13	23	0.79
28120405	PHENOBARBITAL	16	0.09	16	0.55
28120407	PRIMIDONE	8	0.04	7	0.24
28120800	ANTICONVULS-HYDANTOINS	21	0.11	20	0.68
28120805	PHENYTOIN	21	0.11	20	0.68
28122000	ANTICONVULS-OTHER	28	0.15	28	0.96
28122007	CARBAMAZEPINE	5	0.03	5	0.17
28122015	VALPROIC ACID	6	0.03	6	0.20
28122020	GABAPENTIN	17	0.09	17	0.58
28160000	PSYCHOTHERAPEUTIC AGENTS	269	1.43	236	8.06
28160400	ANTIDEPRESSANTS-OTHER	38	0.20	35	1.19
28160415	TRAZODONE	28	0.15	28	0.96
28160434	BUPROPION	2	0.01	2	0.07
28160458	VENLAFAXINE	6	0.03	6	0.20
28160486	NEFAZODONE	2	0.01	2	0.07
28160500	ANTIDEPRESSANTS-MAO INHIB	9	0.05	9	0.31
28160505	PHENELZINE	1	0.01	1	0.03
28160520	SELEGILINE	7	0.04	7	0.24
28160599	TRANYLCYPROMINE	1	0.01	1	0.03

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
28160600	ANTIDEPRESSANTS-TRI/TETRACYC	85	0.45	82	2.80
28160601	AMITRIPTYLINE	50	0.27	49	1.67
28160602	IMIPRAMINE	6	0.03	6	0.20
28160617	MIRTAZAPINE	3	0.02	3	0.10
28160650	TRIMIPRAMINE	1	0.01	1	0.03
28160681	DOXEPIN	4	0.02	4	0.14
28160688	CLOMIPRAMINE	1	0.01	1	0.03
28160689	DESIPRAMINE	5	0.03	5	0.17
28160695	NORTRIPTYLINE	15	0.08	14	0.48
28160700	ANTIDEPRESSANTS-SSRIS	96	0.51	94	3.21
28160701	FLUOXETINE	20	0.11	19	0.65
28160702	PAROXETINE	32	0.17	32	1.09
28160703	SERTRALINE	38	0.20	37	1.26
28160704	FLUVOXAMINE	2	0.01	2	0.07
28160705	CITALOPRAM	4	0.02	4	0.14
28160800	ANTIPSYCHOTICS-OTHER	23	0.12	23	0.79
28160801	TYBAMATE	1	0.01	1	0.03
28160807	HYDROXYZINE	17	0.09	17	0.58
28160822	RISPERIDONE	2	0.01	2	0.07
28160834	QUETIAPINE	1	0.01	1	0.03
28160836	OLANZAPINE	2	0.01	2	0.07
28160900	ANTIPSYCHOTICS-PHENOTHIAZINES	10	0.05	10	0.34
28160909	PERPHENAZINE	4	0.02	4	0.14
28160912	THIORIDAZINE	2	0.01	2	0.07
28160913	TRIFLUOPERAZINE	4	0.02	4	0.14
28161000	ANTIPSYCHOTICS-BUTYROPHENON	6	0.03	6	0.20
28161014	HALOPERIDOL	6	0.03	6	0.20
28161200	PSYCHOTHERAPEUTIC AGENTS-OTH	2	0.01	2	0.07
28161204	LITHIUM	2	0.01	2	0.07
28200000	RESPIRATORY & CEREBRAL STIM	82	0.44	78	2.66
28200000	RESPIRATORY & CEREBRAL STIM	82	0.44	78	2.66
28200002	AMPHETAMINE	1	0.01	1	0.03
28200006	DEXTROAMPHETAMINE	1	0.01	1	0.03
28200009	METHYLPHENIDATE	2	0.01	2	0.07
28200039	DONEPEZIL	20	0.11	20	0.68
28200060	MODAFINIL	2	0.01	2	0.07
28200080	CAFFEINE	54	0.29	53	1.81
28200096	PHENTERMINE	2	0.01	2	0.07
28240000	ANXIOLYTICS	205	1.09	194	6.62
28240200	ANXIOLYTICS-BENZODIAZEPINES	162	0.86	156	5.33
28240202	CHLORDIAZEPOXIDE	11	0.06	11	0.38
28240205	DIAZEPAM	29	0.15	29	0.99
28240206	FLURAZEPAM	6	0.03	6	0.20

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
28240212	CLONAZEPAM	13	0.07	13	0.44
28240215	OXAZEPAM	2	0.01	2	0.07
28240222	TRIAZOLAM	4	0.02	4	0.14
28240228	CLORAZEPATE	3	0.02	3	0.10
28240231	TEMAZEPAM	14	0.07	14	0.48
28240232	ALPRAZOLAM	37	0.20	37	1.26
28240276	LORAZEPAM	43	0.23	43	1.47
28240400	ANXIOLYTICS-BARBITURATES	10	0.05	10	0.34
28240404	BUTABARBITAL	2	0.01	2	0.07
28240405	HEXOBARBITAL	3	0.02	3	0.10
28240413	BUTALBITAL	5	0.03	5	0.17
28240800	ANXIOLYTICS-OTHER	33	0.18	33	1.13
28240820	MEPROBAMATE	2	0.01	2	0.07
28240834	ZOLPIDEM	23	0.12	23	0.79
28240837	BUSPIRONE	8	0.04	8	0.27
28280000	DOPAMINERGICS	18	0.10	17	0.58
28280000	DOPAMINERGICS	18	0.10	17	0.58
28280002	LEVODOPA	13	0.07	13	0.44
28280011	ROPINIROLE	2	0.01	2	0.07
28280013	PRAMIPEXOLE	3	0.02	3	0.10
34000000	DENTAL AGENTS	3	0.02	3	0.10
34000000	DENTAL AGENTS	3	0.02	3	0.10
34000000	DENTAL AGENTS	3	0.02	3	0.10
34000002	STANNOUS FLUORIDE	2	0.01	2	0.07
34000004	SODIUM FLUORIDE	1	0.01	1	0.03
40000000	ELECTROLYTE SOLUTIONS	2755	14.64	1547	52.82
40040000	ACIDIFYING AGENTS	2	0.01	2	0.07
40040000	ACIDIFYING AGENTS	2	0.01	2	0.07
40040001	AMMONIUM CHLORIDE	2	0.01	2	0.07
40080000	ALKALINIZING AGENTS	37	0.20	30	1.02
40080000	ALKALINIZING AGENTS	37	0.20	30	1.02
40080001	SODIUM BICARBONATE	19	0.10	19	0.65
40080094	POTASSIUM BICARBONATE	2	0.01	2	0.07
40080095	POTASSIUM CITRATE	5	0.03	5	0.17
40080096	SODIUM ACETATE	1	0.01	1	0.03
40080097	SODIUM CITRATE	10	0.05	9	0.31
40100000	AMMONIA DETOXICANTS	8	0.04	8	0.27
40100000	AMMONIA DETOXICANTS	8	0.04	8	0.27
40100003	LACTULOSE	8	0.04	8	0.27
40120000	REPLACEMENT SOLUTIONS	1548	8.23	1081	36.91
40120000	REPLACEMENT SOLUTIONS	382	2.03	340	11.61
40120001	DEXTRAN 70	7	0.04	7	0.24
40120003	POTASSIUM CHLORIDE	224	1.19	224	7.65

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
40120004	POTASSIUM GLUCONATE	10	0.05	10	0.34
40120006	SODIUM CHLORIDE	39	0.21	37	1.26
40120008	POTASSIUM SALTS	38	0.20	38	1.30
40120010	MAGNESIUM SALTS	62	0.33	58	1.98
40120095	MAGNESIUM CHLORIDE	2	0.01	2	0.07
40120400	TRACE ELEMENTS	659	3.50	587	20.04
40120400	TRACE ELEMENTS	515	2.74	500	17.07
40120401	MANGANESE	1	0.01	1	0.03
40120402	SELENIUM	39	0.21	39	1.33
40120403	COPPER	1	0.01	1	0.03
40120404	ZINC	88	0.47	86	2.94
40120406	CHROMIUM	15	0.08	15	0.51
40121200	CALCIUM SUPPLEMENTS	507	2.69	480	16.39
40121200	CALCIUM SUPPLEMENTS	9	0.05	9	0.31
40121201	CALCIUM CITRATE	20	0.11	20	0.68
40121204	CALCIUM LACTATE	4	0.02	3	0.10
40121206	CALCIUM GLUCONATE	1	0.01	1	0.03
40121209	CALCIUM CHLORIDE	1	0.01	1	0.03
40121211	CALCIUM	472	2.51	448	15.30
40180000	RESINS-POTASSIUM-REMOVING	1	0.01	1	0.03
40180000	RESINS-POTASSIUM-REMOVING	1	0.01	1	0.03
40180099	POLYSTYRENE SULFONATE SALTS	1	0.01	1	0.03
40200000	CALORIC (& NUTRIENT) AGENTS	56	0.30	50	1.71
40200000	CALORIC (& NUTRIENT) AGENTS	43	0.23	39	1.33
40200000	CALORIC (& NUTRIENT) AGENTS	30	0.16	27	0.92
40200003	DEXTROSE	4	0.02	4	0.14
40200007	FISH OIL	9	0.05	9	0.31
40200400	AMINO ACIDS	13	0.07	13	0.44
40200400	AMINO ACIDS	3	0.02	3	0.10
40200403	LYSINE	6	0.03	6	0.20
40200412	PROTEIN HYDROLYSATES	1	0.01	1	0.03
40200414	HOMOCYSTEINE	3	0.02	3	0.10
40280000	DIURETICS	1097	5.83	828	28.27
40280000	DIURETICS	308	1.64	307	10.48
40280000	DIURETICS	1	0.01	1	0.03
40280013	SPIRONOLACTONE	19	0.10	19	0.65
40280016	TRIAMTERENE	232	1.23	232	7.92
40280025	INDAPAMIDE	44	0.23	44	1.50
40280062	AMILORIDE	12	0.06	12	0.41
40280100	DIURETICS-THIAZIDE	569	3.02	564	19.26
40280101	CHLORTHALIDONE	12	0.06	12	0.41
40280106	CHLOROTHIAZIDE	4	0.02	4	0.14
40280108	HYDROCHLOROTHIAZIDE	535	2.84	530	18.09

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
40280110	METOLAZONE	15	0.08	15	0.51
40280184	METHYCLOTHIAZIDE	3	0.02	3	0.10
40280400	DIURETICS-LOOP	220	1.17	219	7.48
40280401	FUROSEMIDE	193	1.03	192	6.56
40280402	BUMETANIDE	14	0.07	14	0.48
40280405	TORSEMIDE	13	0.07	13	0.44
40360000	IRRIGATING SOLUTIONS	6	0.03	6	0.20
40360000	IRRIGATING SOLUTIONS	6	0.03	6	0.20
40360095	GLYCINE	6	0.03	6	0.20
44000000	ENZYMES	43	0.23	40	1.37
44000000	ENZYMES	23	0.12	20	0.68
44000000	ENZYMES	23	0.12	20	0.68
44000000	ENZYMES	1	0.01	1	0.03
44000021	LACTASE	14	0.07	14	0.48
44000086	AMYLASE	2	0.01	2	0.07
44000088	BROMELAINS	2	0.01	1	0.03
44000090	CELLULASE	2	0.01	2	0.07
44000093	PAPAIN	2	0.01	2	0.07
44100000	ENZYME INHIBITORS	20	0.11	20	0.68
44100000	ENZYME INHIBITORS	20	0.11	20	0.68
44100007	CLAVULANIC ACID	7	0.04	7	0.24
44100044	CARBIDOPA	13	0.07	13	0.44
48000000	EXPECTORANTS & ANTITUSSIVES	175	0.93	140	4.78
48000000	EXPECTORANTS & ANTITUSSIVES	175	0.93	140	4.78
48000000	EXPECTORANTS & ANTITUSSIVES	175	0.93	140	4.78
48000008	GUAIFENESIN	92	0.49	88	3.00
48000012	POTASSIUM IODIDE	1	0.01	1	0.03
48000054	BENZONATATE	3	0.02	3	0.10
48000063	CODEINE	23	0.12	22	0.75
48000069	DEXTROMETHORPHAN	28	0.15	28	0.96
48000072	HYDROCODONE	27	0.14	27	0.92
48000090	NOSCAPINE	1	0.01	1	0.03
52000000	EENT AGENTS	235	1.25	190	6.49
52040000	ANTIINFECTIVES (EENT)	19	0.10	19	0.65
52041200	ANTIINFECTIVES (EENT)-OTHER	19	0.10	19	0.65
52041210	OLOPATADINE	7	0.04	7	0.24
52041211	ZINC SULFATE	9	0.05	9	0.31
52041286	CHLORHEXIDINE	2	0.01	2	0.07
52041297	CARBAMIDE PEROXIDE	1	0.01	1	0.03
52080000	ANTIINFLAMMATORY AGENTS (EENT	17	0.09	17	0.58
52080000	ANTIINFLAMMATORY AGENTS (EEN	17	0.09	17	0.58
52080002	LOTEPREDNOL	3	0.02	3	0.10
52080025	FLUNISOLIDE	14	0.07	14	0.48

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
52100000	CARB ANHYDRASE INHIB (EENT)	53	0.28	52	1.78
52100000	CARB ANHYDRASE INHIB (EENT)	53	0.28	52	1.78
52100001	ACETAZOLAMIDE	4	0.02	3	0.10
52100004	METHAZOLAMIDE	4	0.02	4	0.14
52100010	DORZOLAMIDE	45	0.24	45	1.54
52200000	MIOTICS	2	0.01	2	0.07
52200000	MIOTICS	2	0.01	2	0.07
52200001	CARBACHOL	1	0.01	1	0.03
52200003	ECHOTHIOPHATE IODIDE	1	0.01	1	0.03
52240000	MYDRIATICS	16	0.09	16	0.55
52240000	MYDRIATICS	16	0.09	16	0.55
52240004	DIPIVEFRIN	16	0.09	16	0.55
52320000	VASOCONSTRICTORS (EENT)	39	0.21	38	1.30
52320000	VASOCONSTRICTORS (EENT)	39	0.21	38	1.30
52320004	NAPHAZOLINE	14	0.07	14	0.48
52320006	OXYMETAZOLINE	7	0.04	7	0.24
52320007	TETRAHYDROZOLINE	16	0.09	16	0.55
52320097	PROPYLHEXEDRINE	2	0.01	2	0.07
52360000	EENT AGENTS-OTHER	89	0.47	86	2.94
52360000	EENT AGENTS-OTHER	89	0.47	86	2.94
52360009	APRACLONIDINE	7	0.04	7	0.24
52360015	HYDROXYPROPYL CELLULOSE	5	0.03	5	0.17
52360025	LATANOPROST	55	0.29	55	1.88
52360095	POLYVINYL ALCOHOL	22	0.12	22	0.75
56000000	GASTROINTESTINAL AGENTS	1412	7.50	902	30.80
56040000	ANTACIDS & ADSORBENTS	420	2.23	304	10.38
56040000	ANTACIDS & ADSORBENTS	420	2.23	304	10.38
56040000	ANTACIDS & ADSORBENTS	16	0.09	16	0.55
56040002	ALUMINUM HYDROXIDE	89	0.47	88	3.00
56040004	CALCIUM CARBONATE	185	0.98	181	6.18
56040006	MAGNESIUM HYDROXIDE	76	0.40	76	2.59
56040009	DIHYDROXY AL SOD CARBONATE	12	0.06	12	0.41
56040085	CALCIUM PHOSPHATE	2	0.01	2	0.07
56040090	MAGNESIUM CARBONATE	19	0.10	19	0.65
56040092	MAGNESIUM COMPOUNDS	2	0.01	2	0.07
56040094	MAGNESIUM OXIDE	10	0.05	10	0.34
56040096	MAGNESIUM TRISILICATE	9	0.05	9	0.31
56080000	ANTIDIARRHEA AGENTS	54	0.29	48	1.64
56080000	ANTIDIARRHEA AGENTS	54	0.29	48	1.64
56080005	DIPHENOXYLATE	3	0.02	3	0.10
56080009	LOPERAMIDE	21	0.11	21	0.72
56080012	BISMUTH SUBSALICYLATE	6	0.03	6	0.20
56080087	ATTAPULGITES	2	0.01	2	0.07

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
56080092	LACTOBACILLUS ACIDOPHILUS	9	0.05	9	0.31
56080093	LACTOBACILLUS BULGARICUS	2	0.01	2	0.07
56080095	PECTIN	1	0.01	1	0.03
56080096	POLYCARBOPHIL	10	0.05	8	0.27
56100000	ANTIFLATULENTS	44	0.23	44	1.50
56100000	ANTIFLATULENTS	44	0.23	44	1.50
56100001	SIMETHICONE	44	0.23	44	1.50
56120000	CATHARTICS	205	1.09	138	4.71
56120000	CATHARTICS	205	1.09	138	4.71
56120000	CATHARTICS	31	0.16	30	1.02
56120001	BISACODYL	7	0.04	7	0.24
56120005	MAGNESIUM CITRATE	1	0.01	1	0.03
56120006	BRAN	4	0.02	4	0.14
56120007	DOCUSATE SODIUM	63	0.33	62	2.12
56120010	SODIUM PHOSPHATE, DIBASIC	1	0.01	1	0.03
56120014	PETROLATUM LIQUID	5	0.03	5	0.17
56120019	SODIUM PHOSPHATE	4	0.02	4	0.14
56120076	CASANTHRANOL	57	0.30	56	1.91
56120078	DOCUSATE CALCIUM	9	0.05	9	0.31
56120084	PHENOLPHTHALEIN	11	0.06	11	0.38
56120085	CASCARA SAGRADA	1	0.01	1	0.03
56120093	SENNA	11	0.06	11	0.38
56140000	CHOLELITHOTHERAPEUTIC AGENTS	1	0.01	1	0.03
56140000	CHOLELITHOTHERAPEUTIC AGENTS	1	0.01	1	0.03
56140013	URSODIOL	1	0.01	1	0.03
56160000	DIGESTANTS	15	0.08	14	0.48
56160000	DIGESTANTS	15	0.08	14	0.48
56160000	DIGESTANTS	2	0.01	2	0.07
56160003	GALACTOSIDASE, ALPHA	6	0.03	6	0.20
56160009	PANCRELIPASE	3	0.02	3	0.10
56160080	BETAINE	1	0.01	1	0.03
56160092	LIPASE	3	0.02	3	0.10
56220000	ANTIEMETICS	66	0.35	64	2.19
56220000	ANTIEMETICS	66	0.35	64	2.19
56220005	MECLIZINE	43	0.23	43	1.47
56220089	CHLORPROMAZINE	4	0.02	2	0.07
56220098	METOCLOPRAMIDE	19	0.10	19	0.65
56240000	LIPOTROPIC AGENTS	2	0.01	2	0.07
56240000	LIPOTROPIC AGENTS	2	0.01	2	0.07
56240099	CHOLINE	2	0.01	2	0.07

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
56260000	ANTIULCER AGENTS	478	2.54	458	15.64
56260000	ANTIULCER AGENTS	33	0.18	33	1.13
56260011	MISOPROSTOL	26	0.14	26	0.89
56260018	SUCRALFATE	7	0.04	7	0.24
56260400	ANTIULCER-H2 ANTAGONISTS	284	1.51	279	9.53
56260402	CIMETIDINE	69	0.37	68	2.32
56260405	RANITIDINE	120	0.64	120	4.10
56260410	NIZATIDINE	26	0.14	26	0.89
56260411	FAMOTIDINE	69	0.37	69	2.36
56260600	ANTIULCER-PROTON PUMP INHIB	161	0.86	161	5.50
56260602	OMEPRAZOLE	119	0.63	119	4.06
56260603	LANSOPRAZOLE	42	0.22	42	1.43
56400000	GASTROINTESTINAL AGENTS-OTHER	127	0.67	124	4.23
56400000	GASTROINTESTINAL AGENTS-OTHE	127	0.67	124	4.23
56400006	CISAPRIDE	35	0.19	35	1.19
56400007	MESALAMINE	8	0.04	8	0.27
56400013	PSYLLIUM	82	0.44	81	2.77
56400014	OLSALAZINE	2	0.01	2	0.07
68000000	HORMONES & SYNTHETIC SUBSTANCE	1583	8.41	1092	37.28
68040000	CORTICOSTEROIDS	260	1.38	227	7.75
68040000	CORTICOSTEROIDS	260	1.38	227	7.75
68040001	CORTISONE	2	0.01	2	0.07
68040003	DEXAMETHASONE	11	0.06	11	0.38
68040004	FLUDROCORTISONE	2	0.01	2	0.07
68040005	HYDROCORTISONE	26	0.14	26	0.89
68040006	METHYLPREDNISOLONE	7	0.04	7	0.24
68040007	PREDNISONE	63	0.33	62	2.12
68040008	TRIAMCINOLONE	72	0.38	70	2.39
68040011	BETAMETHASONE	10	0.05	10	0.34
68040092	PREDNISOLONE	28	0.15	28	0.96
68040094	FLUTICASONE	39	0.21	35	1.19
68080000	ANDROGENS	26	0.14	26	0.89
68080000	ANDROGENS	16	0.09	16	0.55
68080001	FLUOXYMESTERONE	1	0.01	1	0.03
68080003	METHYLTESTOSTERONE	9	0.05	9	0.31
68080006	TESTOSTERONE	1	0.01	1	0.03
68080083	PRASTERONE	4	0.02	4	0.14
68080097	DANAZOL	1	0.01	1	0.03
68080400	ANTIANDROGENS	10	0.05	10	0.34
68080404	FLUTAMIDE	3	0.02	3	0.10
68080406	NILUTAMIDE	1	0.01	1	0.03
68080407	BICALUTAMIDE	6	0.03	6	0.20

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
68160000	ESTROGENS	378	2.01	373	12.73
68160000	ESTROGENS	365	1.94	360	12.29
68160000	ESTROGENS	9	0.05	9	0.31
68160003	DIENESTROL	1	0.01	1	0.03
68160005	ESTRADIOL	34	0.18	34	1.16
68160007	ESTROGENS CONJUGATED	302	1.60	298	10.17
68160020	ESTROPIPATE	19	0.10	19	0.65
68160400	ANTIESTROGENS	13	0.07	13	0.44
68160408	RALOXIFENE	13	0.07	13	0.44
68180000	GONADOTROPINS	1	0.01	1	0.03
68180000	GONADOTROPINS	1	0.01	1	0.03
68180014	GOSERELIN	1	0.01	1	0.03
68200000	INSULINS & ANTIDIABETIC AGTS	507	2.69	382	13.04
68200400	HYPOGLYCEMICS (ORAL)-OTHER	99	0.53	97	3.31
68200401	TROGLITAZONE	20	0.11	20	0.68
68200402	REPAGLINIDE	3	0.02	3	0.10
68200407	METFORMIN	72	0.38	72	2.46
68200411	ACARBOSE	4	0.02	4	0.14
68200600	SULFONYLUREAS	261	1.39	258	8.81
68200602	CHLORPROPAMIDE	8	0.04	8	0.27
68200605	TOLAZAMIDE	4	0.02	4	0.14
68200609	GLYBURIDE	157	0.83	156	5.33
68200610	GLIMEPIRIDE	15	0.08	15	0.51
68200614	TOLBUTAMIDE	3	0.02	3	0.10
68200637	GLIPIZIDE	74	0.39	74	2.53
68200800	INSULINS	147	0.78	109	3.72
68200801	INSULIN	22	0.12	20	0.68
68200804	INSULIN ZINC	5	0.03	4	0.14
68200805	INSULIN ISOPHANE	15	0.08	14	0.48
68200820	INSULIN HUMAN	95	0.50	84	2.87
68200821	INSULIN LISPRO	5	0.03	5	0.17
68200823	INSULIN PROTAMINE LISPRO	5	0.03	5	0.17
68320000	PROGESTOGENS	97	0.52	96	3.28
68320000	PROGESTOGENS	97	0.52	96	3.28
68320002	MEDROXYPROGESTERONE	95	0.50	94	3.21
68320006	PROGESTERONE	2	0.01	2	0.07
68360000	THYROID & THYROID ANTAGONISTS	314	1.67	309	10.55
68360000	THYROID & THYROID ANTAGONIST	28	0.15	28	0.96
68360083	CALCITONIN SALMON	28	0.15	28	0.96
68360400	THYROID AGENTS	284	1.51	282	9.63
68360404	THYROID	21	0.11	21	0.72
68360406	LEVOTHYROXINE	263	1.40	261	8.91

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
68360800	ANTITHYROID AGENTS	2	0.01	2	0.07
68360802	METHIMAZOLE	1	0.01	1	0.03
68360805	PROPYLTHIOURACIL	1	0.01	1	0.03
72000000	ANESTHETICS (LOCAL)	2	0.01	2	0.07
72000000	ANESTHETICS (LOCAL)	2	0.01	2	0.07
72000000	ANESTHETICS (LOCAL)	2	0.01	2	0.07
72000078	DIBUCAINE	2	0.01	2	0.07
78000000	RADIOACTIVE & ANTIRAD AGTS	2	0.01	2	0.07
78040000	RADIOISOTOPES	2	0.01	2	0.07
78040000	RADIOISOTOPES	1	0.01	1	0.03
78040158	BORON B 10	1	0.01	1	0.03
78040700	RADIOACTIVE AGENTS-PHOSPHORU	1	0.01	1	0.03
78040701	PHOSPHORUS P 32	1	0.01	1	0.03
80000000	SERUMS, TOXOIDS, & VACCINES	9	0.05	9	0.31
80160000	ALLERGENIC EXTRACTS	9	0.05	9	0.31
80160000	ALLERGENIC EXTRACTS	3	0.02	3	0.10
80160000	ALLERGENIC EXTRACTS	3	0.02	3	0.10
80164400	POLLEN EXTRACTS	6	0.03	6	0.20
80164400	POLLEN EXTRACTS	6	0.03	6	0.20
84000000	SKIN & MUCOUS MEMBRANE AGENTS	200	1.06	159	5.43
84040000	ANTIINFECTIVES (TOP)	19	0.10	18	0.61
84040800	ANTIFUNGALS (TOPICAL)	9	0.05	8	0.27
84040808	UNDECYLENIC ACID	1	0.01	1	0.03
84040811	NAFTIFINE	2	0.01	2	0.07
84040819	BUTENAFINE	3	0.02	3	0.10
84040883	PROPIONIC ACID/SALTS	2	0.01	2	0.07
84040890	UNDECYLENIC ACIDS/SALTS	1	0.01	1	0.03
84041600	ANTIINFECTIVES (TOP)-OTHER	10	0.05	10	0.34
84041607	BENZALKONIUM CHLORIDE	5	0.03	5	0.17
84041608	BORIC ACID	1	0.01	1	0.03
84041610	IODINE	1	0.01	1	0.03
84041612	ISOPROPYL ALCOHOL	1	0.01	1	0.03
84041633	SILVER SULFADIAZINE	1	0.01	1	0.03
84041696	CETYLPYRIDINIUM	1	0.01	1	0.03
84060000	ANTIINFLAMMATORY AGENTS (TOP)	97	0.52	89	3.04
84060000	ANTIINFLAMMATORY AGENTS (TOI	97	0.52	89	3.04
84060002	FLURANDRENOLIDE	1	0.01	1	0.03
84060006	CLOBETASOL PROPIONATE	6	0.03	5	0.17
84060014	ALCLOMETASONE	4	0.02	4	0.14
84060015	DIMETHYL SULFONE	4	0.02	4	0.14
84060017	DESOXIMETASONE	1	0.01	1	0.03
84060019	AMCINONIDE	3	0.02	3	0.10
84060022	BUDESONIDE	6	0.03	6	0.20

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
84060027	HALOBETASOL	2	0.01	2	0.07
84060076	MOMETASONE	8	0.04	8	0.27
84060078	BECLOMETHASONE	44	0.23	42	1.43
84060086	FLUOCINONIDE	8	0.04	8	0.27
84060089	FLUOCINOLONE	3	0.02	3	0.10
84060090	FLUOROMETHOLONE	3	0.02	3	0.10
84060095	DESONIDE	3	0.02	3	0.10
84060098	HYDROCORTISONE BUTYRATE	1	0.01	1	0.03
84080000	ANESTHETICS & ANTIPRURIT (TOP)	32	0.17	27	0.92
84080000	ANESTHETICS & ANTIPRURIT (TOP)	32	0.17	27	0.92
84080001	PHENAZOPYRIDINE	5	0.03	5	0.17
84080003	CAMPHOR	5	0.03	5	0.17
84080011	MENTHOL	10	0.05	10	0.34
84080013	CAPSAICIN	9	0.05	9	0.31
84080024	BENZOCAINE	1	0.01	1	0.03
84080097	PRAMOXINE	2	0.01	2	0.07
84120000	ASTRINGENTS	11	0.06	11	0.38
84120000	ASTRINGENTS	11	0.06	11	0.38
84120094	ALUMINUM SALTS	11	0.06	11	0.38
84240000	EMOLLIENTS, DEMULC & PROTECT	18	0.10	16	0.55
84240400	BASIC LOTIONS & LINIMENTS	8	0.04	8	0.27
84240400	BASIC LOTIONS & LINIMENTS	2	0.01	2	0.07
84240401	CALAMINE	1	0.01	1	0.03
84240403	TURPENTINE OIL	2	0.01	2	0.07
84240404	METHYL SALICYLATE	3	0.02	3	0.10
84241200	PROTECTANTS & BASIC LINIMENTS	10	0.05	8	0.27
84241202	LANOLIN, ANHYDROUS	1	0.01	1	0.03
84241211	SHARK LIVER OIL	1	0.01	1	0.03
84241212	PETROLATUM	4	0.02	4	0.14
84241215	SILICONES	1	0.01	1	0.03
84241220	ZINC OXIDE	3	0.02	3	0.10
84280000	KERATOLYTIC AGENTS	16	0.09	12	0.41
84280000	KERATOLYTIC AGENTS	16	0.09	12	0.41
84280004	TRETINOIN	3	0.02	3	0.10
84280005	ISOTRETINOIN	2	0.01	1	0.03
84280006	BENZOYL PEROXIDE	1	0.01	1	0.03
84280015	TAZAROTENE	1	0.01	1	0.03
84280084	SALICYLIC ACID	1	0.01	1	0.03
84280085	ANTHRALIN	1	0.01	1	0.03
84280086	BENZOIC ACID	4	0.02	3	0.10
84280095	SULFUR	3	0.02	3	0.10

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
84360000	SKIN & MUCOUS MEMBRANE-OTHER	6	0.03	6	0.20
84360000	SKIN & MUCOUS MEMBRANE-OTHE	6	0.03	6	0.20
84360005	METHYL NICOTINATE	1	0.01	1	0.03
84360028	SODIUM BORATE	2	0.01	2	0.07
84360034	CALCIPOTRIENE	2	0.01	2	0.07
84360036	AZELAIC ACID	1	0.01	1	0.03
84800000	SUNSCREEN AGENTS	1	0.01	1	0.03
84800000	SUNSCREEN AGENTS	1	0.01	1	0.03
84800003	AMINOBENZOIC ACID	1	0.01	1	0.03
86000000	SPASMOLYTIC AGENTS	104	0.55	101	3.45
86000000	SPASMOLYTIC AGENTS	104	0.55	101	3.45
86000000	SPASMOLYTIC AGENTS	104	0.55	101	3.45
86000004	OXYBUTYNIN	24	0.13	24	0.82
86000007	PAPAVERINE	1	0.01	1	0.03
86000009	THEOPHYLLINE	43	0.23	43	1.47
86000047	TOLTERODINE	36	0.19	36	1.23
88000000	VITAMINS	2909	15.46	1422	48.55
88000000	VITAMINS	4	0.02	4	0.14
88000000	VITAMINS	4	0.02	4	0.14
88000003	CARNITINE, LEVO-	4	0.02	4	0.14
88040000	VITAMIN A DERIVATIVES	79	0.42	72	2.46
88040000	VITAMIN A DERIVATIVES	79	0.42	72	2.46
88040000	VITAMIN A DERIVATIVES	1	0.01	1	0.03
88040002	BETA CAROTENE	36	0.19	35	1.19
88040005	LYCOPENE	1	0.01	1	0.03
88040006	XANTHOPHYLL	2	0.01	2	0.07
88040098	VITAMIN A	39	0.21	38	1.30
88080000	VITAMIN B COMPLEX	314	1.67	246	8.40
88080000	VITAMIN B COMPLEX	314	1.67	246	8.40
88080000	VITAMIN B COMPLEX	94	0.50	93	3.18
88080001	LEUCOVORIN CALCIUM	1	0.01	1	0.03
88080002	CYANOCOBALAMIN	58	0.31	58	1.98
88080003	FOLIC ACID	81	0.43	80	2.73
88080004	NIACIN	23	0.12	23	0.79
88080006	PYRIDOXINE	28	0.15	28	0.96
88080009	THIAMINE	13	0.07	13	0.44
88080010	BIOTIN	10	0.05	10	0.34
88080087	PANTOTHENATE	2	0.01	2	0.07
88080092	INOSITOL	1	0.01	1	0.03
88080094	PANTOTHENIC ACID	3	0.02	3	0.10

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
88120000	VITAMIN C DERIVATIVES	432	2.30	426	14.54
88120000	VITAMIN C DERIVATIVES	432	2.30	426	14.54
88120000	VITAMIN C DERIVATIVES	16	0.09	16	0.55
88120002	ASCORBIC ACID	416	2.21	410	14.00
88160000	VITAMIN D & DERIVATIVES	307	1.63	294	10.04
88160000	VITAMIN D & DERIVATIVES	307	1.63	294	10.04
88160000	VITAMIN D & DERIVATIVES	302	1.60	290	9.90
88160095	CHOLECALCIFEROL	1	0.01	1	0.03
88160096	CALCITRIOL	4	0.02	4	0.14
88200000	VITAMIN E & DERIVATIVES	653	3.47	652	22.26
88200000	VITAMIN E & DERIVATIVES	653	3.47	652	22.26
88200000	VITAMIN E & DERIVATIVES	653	3.47	652	22.26
88280000	MULTIVITAMIN PREPARATIONS	1112	5.91	1014	34.62
88280000	MULTIVITAMIN PREPARATIONS	1112	5.91	1014	34.62
88280000	MULTIVITAMIN PREPARATIONS	1069	5.68	995	33.97
88280004	COD LIVER OIL	43	0.23	43	1.47
88320000	BIOFLAVONOIDS	8	0.04	8	0.27
88320000	BIOFLAVONOIDS	8	0.04	8	0.27
88320000	BIOFLAVONOIDS	8	0.04	8	0.27
92000000	UNCLASSIFIED THERAPEUTIC AGTS	1006	5.35	550	18.78
92000000	UNCLASSIFIED THERAPEUTIC AGTS	156	0.83	137	4.68
92000000	UNCLASSIFIED THERAPEUTIC AGTS	156	0.83	137	4.68
92000018	MELATONIN	8	0.04	8	0.27
92000020	CROMOLYN	8	0.04	7	0.24
92000051	VALSPODAR	1	0.01	1	0.03
92000061	TACROLIMUS	2	0.01	1	0.03
92000134	CYCLOSPORINE	2	0.01	2	0.07
92000170	METHYLENE BLUE	4	0.02	3	0.10
92000192	NEDOCROMIL	1	0.01	1	0.03
92000196	PICOLINIC ACID	13	0.07	13	0.44
92000204	SILYMARIN	2	0.01	2	0.07
92000210	HOMEOPATHIC PREPARATIONS	2	0.01	2	0.07
92000250	UBIDECARENONE	33	0.18	33	1.13
92010101	MONTELUKAST	8	0.04	8	0.27
92010105	ZAFIRLUKAST	12	0.06	12	0.41
92010203	ZILEUTON	1	0.01	1	0.03
92200099	YOHIMBINE	6	0.03	6	0.20
92300030	THIOCTIC ACID	2	0.01	2	0.07
92352571	LECITHIN	32	0.17	32	1.09
92354062	CITRIC ACID	14	0.07	13	0.44
92354072	LACTIC ACID	5	0.03	5	0.17

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
92510000	HERBAL MEDICINES	534	2.84	322	10.99
92510000	HERBAL MEDICINES	534	2.84	322	10.99
92510000	HERBAL MEDICINES	73	0.39	61	2.08
92510001	FLAXSEED	7	0.04	7	0.24
92510002	PYGEUM AFRICANUM EXTRACT	4	0.02	4	0.14
92510008	GARLIC	146	0.78	146	4.98
92510009	GINGER	3	0.02	3	0.10
92510010	GINSENG	27	0.14	27	0.92
92510014	CRANBERRY	6	0.03	6	0.20
92510015	CHESTNUT	3	0.02	3	0.10
92510019	ECHINACEA	14	0.07	14	0.48
92510020	SAW PALMETTO	47	0.25	46	1.57
92510026	ST JOHN'S WORT	20	0.11	19	0.65
92510033	ALOE	7	0.04	7	0.24
92510034	GINKGO	116	0.62	115	3.93
92510035	ALFALFA	12	0.06	12	0.41
92510038	EVENING PRIMROSE OIL	1	0.01	1	0.03
92510039	GOLDENSEAL	7	0.04	7	0.24
92510040	HAWTHORN	3	0.02	3	0.10
92510041	KAVA	2	0.01	2	0.07
92510049	ARNICA	1	0.01	1	0.03
92510052	GRAPE SEED	7	0.04	7	0.24
92510060	SOY	1	0.01	1	0.03
92510073	CAPSICUM	4	0.02	4	0.14
92510079	DAMIANA	1	0.01	1	0.03
92510085	TURMERIC	1	0.01	1	0.03
92510102	NETTLES	2	0.01	2	0.07
92510111	SPIRULINA	2	0.01	2	0.07
92510115	VALERIAN	2	0.01	2	0.07
92510131	GREEN TEA	1	0.01	1	0.03
92510142	BILBERRY	14	0.07	14	0.48
92520000	NATURAL PRODUCTS-OTHER	206	1.09	117	3.99
92520000	NATURAL PRODUCTS-OTHER	206	1.09	117	3.99
92520006	CARTILAGE, SHARK	4	0.02	4	0.14
92520008	CHONDROITIN	89	0.47	86	2.94
92520011	GLUCOSAMINE	113	0.60	111	3.79
92600100	BISPHOSPHONATES	110	0.58	110	3.76
92600100	BISPHOSPHONATES	110	0.58	110	3.76
92600101	ALENDRONATE	105	0.56	105	3.58
92600104	ETIDRONATE DISODIUM	4	0.02	4	0.14
92600108	PAMIDRONATE	1	0.01	1	0.03

IDIS Code	Description	# of Times Med Taken	% Tot Meds Taken	# Ppts	% Tot Ppts
94000000	NONTHERAPEUTIC/TOXIC SUBST	1	0.01	1	0.03
94080000	METALS-TOXIC	1	0.01	1	0.03
94080000	METALS-TOXIC	1	0.01	1	0.03
94080023	VANADIUM	1	0.01	1	0.03
95000000	INVESTIGATIONAL AGENTS	2	0.01	2	0.07
95000000	INVESTIGATIONAL AGENTS	2	0.01	2	0.07
95000000	INVESTIGATIONAL AGENTS	2	0.01	2	0.07
95000036	FATTY ACIDS	2	0.01	2	0.07
96000000	PHARMACEUTICAL AIDS	69	0.37	66	2.25
96000000	PHARMACEUTICAL AIDS	69	0.37	66	2.25
96000000	PHARMACEUTICAL AIDS	2	0.01	2	0.07
96000008	TALC	1	0.01	1	0.03
96000019	OLIVE OIL	1	0.01	1	0.03
96003000	PHARM AIDS-PH ADJUSTMENT	1	0.01	1	0.03
96003033	SODIUM HYDROXIDE	1	0.01	1	0.03
96004000	PHARM AIDS-FLAVORING AGENTS	5	0.03	5	0.17
96004004	EUCALYPTUS OIL	3	0.02	3	0.10
96004006	SORBITOL	1	0.01	1	0.03
96004019	LICORICE	1	0.01	1	0.03
96005000	PHARM AIDS-SUSP/EMULS/SURFACT	56	0.30	54	1.84
96005003	CARBOXYMETHYLCELLULOSE	17	0.09	16	0.55
96005004	GELATIN	10	0.05	10	0.34
96005005	HYPROMELLOSE	20	0.11	20	0.68
96005006	METHYLCELLULOSE	8	0.04	8	0.27
96005080	SORBITAN COMPOUNDS	1	0.01	1	0.03
96006000	PHARM AIDS-SOLVENTS/VEHICLES	5	0.03	5	0.17
96006000	PHARM AIDS-SOLVENTS/VEHICLES	2	0.01	2	0.07
96006004	GLYCERIN	3	0.02	3	0.10
99990089	/BOOK: BIOPHARMACEUTICS	85	0.45	76	2.59
99990089	/BOOK: BIOPHARMACEUTICS	85	0.45	76	2.59
99999999	UNCODABLE INGREDIENT	85	0.45	76	2.59
99999999	UNCODABLE INGREDIENT	85	0.45	76	2.59

Appendix III
MEDICATION USE VARIABLES

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2ACEINH	Y2: ACE inhibitors	Indicator variable for ACE inhibitor in Y2MIFCOD based on IDIS code	ACE inhibitors (24080200 ≤ INGCODE ≤ 24080299)	= .A if no drug information available	0=No 1=Yes
Y2ALPHBK	Y2: Alpha-adrenergic blockers (hypertension)	Indicator variable for alpha-adrenergic blocker in Y2MIFCOD based on IDIS code	Alpha-adrenergic blockers (12160400 ≤ INGCODE ≤ 12160499) and INGCODE ≠ 12160411 (Tamsulosin)	= .A if no drug information available if INGCODE= 12160401 or 12160419 and gender =male, count only if reason for use related to hypertension	0=No 1=Yes
Y2AMILOR	Y2:Diuretic: amiloride	Indicator variable for amiloride in Y2MIFCOD based on IDIS code	Amiloride INGCODE=40280062	= .A if no drug information available	0=No 1=Yes
Y2AMIODR	Y2: Antiar-rhythmic: amiodarone	Indicator variable for amiodarone in Y2MIFCOD based on IDIS code	Amiodarone INGCODE=24120098 (New # is 24040220, both codes included)	= .A if no drug information available	0=No 1=Yes
Y2ANDEPO	Y2: Miscellaneous antidepressants	Indicator variable for miscellaneous antidepressant med in Y2MIFCOD based on IDIS code	Trazodone, Bupropion, Venlafaxine, Nefaxodone INGCODE in (28160415,28160434,28160458, 28160486)	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2ANGTN2	Y2: Angiotensin II hypotensive agents	Indicator variable for angiotensin II hypotensive agent in Y2MIFCOD based on IDIS code	Angiotensin II hypotensive agents (24080400 ≤ INGCODE ≤ 24080413)	= .A if no drug information available	0=No 1=Yes
Y2ANLEUC	Y2: Spasmolytics: Antileucotrienes	Indicator variable for antileucotriene spasmolytic in Y2MIFCOD based on IDIS code	=1 if 92010101 ≤ INGCODE ≤ 92010206 =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2ANTANG	Y2:CV Drug #1:Antianginal	Indicator variable for antianginal meds in Y2MIFCOD based on IDIS code	=1 if Y2BETABK=1 or Y2NITRAT=1 or Y2CACHBK=1 =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2ANTARR	Y2:CV Drug #7: Antiar-rhythmic	Indicator variable for antiarrhythmic meds in Y2MIFCOD based on IDIS code	=1 if Y2ARHYT1=1 or Y2CARGLY=1 or Y2DILTZM=1 or Y2BETABK=1 or Y2AMIODR=1 =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2ANTHYR	Y2: Thyroid antagonist	Indicator variable for thyroid antagonist in Y2MIFCOD based on IDIS code	=1 if 68360800 ≤ INGCODE ≤ 68360805 =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2ANTINF	Y2: Anti-inflammatory	Indicator variable for anti-inflammatory meds in Y2MIFCOD based on IDIS code	=1 if Cox II inhibitor (28080601 ≤ INGCODE ≤ 28080699) or Y2SALIC=1 or Y2NSAID=1 or Y2ORSTER=1 =0 otherwise	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2ANTLIP	Y2: CV drug #2: antilipemic (incl. statins)	Indicator variable for any antilipemic med in Y2MIFCOD based on IDIS code	(24060000 ≤ INGCODE ≤ 24060409) or DRCODE in (1295001-5, 4103002-3, 8094004) Note: includes statins and high dose niacin	= .A if no drug information available	0=No 1=Yes
Y2ANTPLT	Y2: CV drug #4: antiplatelet	Indicator variable for any antiplatelet medication in Y2MIFCOD based on IDIS code	=1 if Y2ASAPLT=1 or Y2OTHPLT=1 =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2ARHYT1	Y2: Type I antiarrhythmic medication	Indicator variable for type I antiarrhythmic in Y2MIFCOD based on IDIS code	=1 if INGCODE in (24040006, 24040007,24040008,24040021, 24040023,24040024,24040028, 24040034,24040035, 24040071, 24040097,24040091,24040099) =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2ASAPLT	Y2: Anti-platelet including ASA	Indicator variable for aspirin or antiplatelet med in Y2MIFCOD based on IDIS code	Platelet aggregate inhibitors , including aspirin (20120600 ≤ INGCODE ≤ 20120672) Aspirin was in this range, now is 28080751, both codes included. **Note : does not include ticlopidine (included under Y2OTHPLT)**	= .A if no drug information available	0=No 1=Yes
Y2BETABK	Y2: Beta-adrenergic blockers	Indicator variable for beta-adrenergic blocker in Y2MIFCOD based on IDIS code	Beta-adrenergic blockers (12160100 ≤ INGCODE ≤ 12160199) and not ophthalmic (MIFFRMCODE ≠ 4) and DRUGNAME ≠ 'Timoptic'	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2BRONCH	Y2: Broncho-dilators	Indicator variable for bronchodilator in Y2MIFCOD based on IDIS code	Ipratropium Bromide, Pirbuterol, Salmeterol, Albuterol, Formoterol, Terbutaline, Bitolterol, Levalbuterol INGCODE in (12080028, 12120029,12120030, 12120046, 12120047, 12120053,12120066, 12120094) excluding ATROVENT NASAL SPRAY	= .A if no drug information available	0=No 1=Yes
Y2CACHBK	Y2: Calcium channel blockers	Indicator variable for calcium channel blocker in Y2MIFCOD based on IDIS code	Calcium channel blockers ((24120400 ≤ INGCODE ≤ 24120450) <u>and</u> INGCODE ≠ 24120402 (Nimodipine) or 24120412 (Flunarizine)	= .A if no drug information available	0=No 1=Yes
Y2CALCM	Y2: Calcium supplement	Indicator variable for calcium supplement in Y2MIFCOD based on IDIS code	Calcium (40121200≤INGCODE≤ 40121299) or (INGCODE in (56040004, 56040085) and reason for use includes ‘bones’, ‘calcium’, ‘supplement’ or ‘osteo’ or ‘diet’ or (MIFPRN=0 and MIFDWM=1)) and MIFDWM ≠3	= .A if no drug information available If taken for a reason other than bones, calcium, supplement, or osteo, <u>and</u> only taken PRN (less than daily) it was not counted. Also not counted were any used on less than a weekly basis (MIFDWM=3)	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2CANDRG	Y2:Any anti-cancer drugs	Indicator variable for anti-cancer med in Y2MIFCOD based on IDIS code	Chlorambucil, Capecetabine, Fluorouracil, Megestrol, Tamoxifen, Hydroxyurea, Letrozole, Anastrozole, Goserelin, Diethylstilbestrol, Mitoxantrone [INGCODE in (10040402, 10080418, 10080425, 10100047, 10100085, 10120019, 10120114, 10120127, 68180014, 68160004, 10030047] or male (GENDER=1) and Leuprolide, Flutamide, Nilutamide, Bicalutamide, Estramustine [INGCODE in (10120054,68080404,68080406,68080407, 10040404)] excludes estrogen	= .A if no drug information available	0=No 1=Yes
Y2CARGLY	Y2:Antiar-rhythmic: Cardiac glycosides	Indicator variable for cardiac glycoside in Y2MIFCOD based on IDIS code	Cardiac glycosides (24040100 ≤ INGCODE ≤ 24040199)	= .A if no drug information available	0=No 1=Yes
Y2CHFDIU	Y2: CV drug #6: diuretics for CHF	Indicator variable for diuretic for CHF in Y2MIFCOD based on IDIS code	=1 if Y2LOOPDI=1 or Y2KSPARE=1 or Y2AMILOR=1 or Y2INDAPA=1 =0 otherwise	= .A if no drug information available	0=No 1=Yes
Y2CHFVAS	Y2: CV drug #5: vasodilator or ACE-I for CHF	Indicator variable for vasodilator or ACE inhibitor for CHF in Y2MIFCOD based on IDIS code	=1 if Y2HYDRLZ=1 or Y2ACEINH=1 or Y2ANGTN2=1 =0 otherwise	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2DEPDRG	Y2:Any antidepressant medication used	Indicator variable for use of any antidepressant med in Y2MIFCOD based on IDIS code	Y2MAOINH=1 or (Y2TRICYC=1 and not topical) or Y2ANDEPO=1 and reason refers to depression or if Y2SSRI=1 and reason refers to depression or tiredness	= .A if no drug information available	0=No 1=Yes
Y2DIBDRG	Y2:Any diabetes med (hypoglycem/ insulin)	Indicator variable for diabetes med in Y2MIFCOD based on IDIS code	Insulins and Antidiabetic Agents (68200400 ≤ INGCODE ≤ 68200875) Note: includes insulin and miglitol	= .A if no drug information available	0=No 1=Yes
Y2DILTZM	Y2:Antiar-rhythmic: diltiazem	Indicator variable for diltiazem in Y2MIFCOD based on IDIS code	Diltiazem INGCODE=24120410	= .A if no drug information available	0=No 1=Yes
Y2DIURO	Y2: Miscellaneous diuretics	Indicator variable for miscellaneous diuretic in Y2MIFCOD based on IDIS code	Diuretics, excluding: SC-16102, Tizolemide, A-56234, Diapamide, Benzamil, Ibopamine, Lyophilized urea, Sodium ethacrynate, Pamabrom, Amisometradine, Ammonium Citrate, Chlorexolone, Theobromine, MK-463 (40280010 ≤ INGCODE ≤ 40280062) and not (INCODE in 40280020,40280021))	= .A if no drug information available	0=No 1=Yes
Y2HBPDRG	Y2: CV drug #3: HBP med/ antihyper-tensive	Indicator variable for any antihypertensive agent in Y2MIFCOD based on IDIS code	=1 if any of the following=1: Y2BETABK, Y2ALPHBK, Y2HYPOTN, Y2ACEINH, Y2ANGTN2, Y2HYDRLZ, Y2CACHBK, Y2DIURO, Y2THIAZ, Y2LOOPDI	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2HYDRLZ	Y2: Vasodilator: Hydralazine	Indicator variable for hydralazine in Y2MIFCOD based on IDIS code	Hydralazine INGCODE=24120094	= .A if no drug information available	0=No 1=Yes
Y2HYPGLY	Y2:Oral hypoglycemics	Indicator for oral hypoglycemics in Y2MIFCOD based on IDIS code	Miglitol (INGCODE=68200006) or Sitagliptin (INGCODE=68200002) oral hypoglycemics in (68200400≤INGCODE≤ 24060700)	=.A if no drug information available	0=No 1=Yes
Y2HYPOTN	Y2: Central hypotensives	Indicator variable for central hypotensive agent in Y2MIFCOD based on IDIS code	Hypotensive agents (24080000 ≤ INGCODE ≤ 24080099) and not topical or ophthalmic (MIFFRMCODE not in (3,4)) ; include 'Clonidine Patch', 'Catapress-TTS' ; exclude 'Minoxidil for Men'	= .A if no drug information available	0=No 1=Yes
Y2INCORT	Y2: Inhaled steroids	Indicator variable for steroid inhaled via mouth in Y2MIFCOD based on IDIS code	Beclomethasone, Budesonide, Dexamethasone, Mometasone, Triamcinolone, Fluticasone, Flunisolide as inhaler MIFFRMCOD=6 and INGCODE in (84060078, 84060022, 68040008, 68040094, 52080025) excluding lotions and nasal preparations	= .A if no drug information available	0=No 1=Yes
Y2INDAPA	Y2: Diuretic: Indapamide	Indicator variable for indapamide in Y2MIFCOD based on IDIS code	Indapamide INGCODE=40280025	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2INSULN	Y2:Insulins	Indicator variable for insulin in Y2MIFCOD based on IDIS code	Insulins (68200800 ≤ INGCODE ≤ 68200876)	= .A if no drug information available	0=No 1=Yes
Y2KSPARE	Y2: K-sparing diuretics	Indicator variable for potassium-sparing diuretic in Y2MIFCOD based on IDIS code;	Potassium-sparing diuretic (INGCODE =40280013, 40280016, 40280050, or 40280062)	= .A if no drug information available	0=No 1=Yes
Y2LOOPDI	Y2: Loop diuretics	Indicator variable for loop diuretic in Y2MIFCOD based on IDIS code	Loop diuretics (40280400 ≤ INGCODE ≤ 40280407)	= .A if no drug information available	0=No 1=Yes
Y2MAOINH	Y2: Anti-depressants: MAO inhibitors	Indicator variable for MAO inhibitor antidepressant in Y2MIFCOD based on IDIS code	MAO inhibitor antidepressant (28160500 ≤ INGCODE ≤ 28160599)	= .A if no drug information available	0=No 1=Yes
Y2MASTCL	Y2: Mast cell stabilizers	Indicator variable for mast cell stabil-izer in Y2MIFCOD based on IDIS code	Nedocromil, Cromolyn INGCODE in (92000192,92000020) and MIFNAME ≠ 'Nasalcrom'	= .A if no drug information available	0=No 1=Yes
Y2NITRAT	Y2: Nitrates	Indicator variable for nitrate medications in Y2MIFCOD based on IDIS code	Nitrate Vasodilators (24120200 ≤ INGCODE ≤ 24120299)	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2NSAID	Y2: NSAID	Indicator variable for non-steroidal anti-inflammatory medications in Y2MIFCOD based on IDIS code	Non-steroidal anti-inflammatory (28080400≤ INGCODE≤ 28080699) ; this includes COX-2 inhibitors	= .A if no drug information available	0=No 1=Yes
Y2OREST	Y2: Oral estrogen	Indicator variable for oral estrogen medications in Y2MIFCOD based on IDIS code	Oral estrogen (68160000≤ INGCODE≤ 68160399) <u>and</u> MIFFRMCODE in (1,2)	= .A if no drug information available	0=No 1=Yes
Y2ORSTER	Y2: Oral steroid	Indicator variable for oral steroid medications in Y2MIFCOD based on IDIS code	INGCODE in (68040001 (cortisone), 68040003 (dexamethasone), 68040004 (fludrocortisone), 68040005 (hydrocortisone), 68040006 (methylprednisolone), 68040007 (prednisone), 68040008 (triamcinolone), 68040011 (betamethasone), 68040092 (prednisolone)) <u>and</u> MIFFRMCODE in (1,2)	= .A if no drug information available	0=No 1=Yes
Y2OSTDRG	Y2:Any osteoporosis drugs	Indicator variable for osteoporosis med in Y2MIFCOD based on IDIS code	Fluorides (40120800 ≤ INGCODE ≤ 40120806), Calcitonins (68360083 ≤ INGCODE ≤ 68360088), all bisphosphonates (INGCODE= 92600100-99), raloxifene INGCODE=68160408), includes old code for alendronate (92000234)	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2OTHPLT	Y2: Antiplatelet: Ticlopidine, Anagrelide, Dipyridamole	Indicator variable for other antiplatelet med in Y2MIFCOD based on IDIS code	Ticlopidine, Anagrelide, Dipyridamole: INGCODE in (20120408, 20120412, 24120091)	= .A if no drug information available	0=No 1=Yes
Y2PRSDRG	Y2:Any drugs used for prostate disease	Indicator variable for prostate med in Y2MIFCOD based on IDIS code	Megestrol, Leuprolide, Finasteride (new #10120081), Terazosin, Tamsulosin, Doxazosin, Cyproterone, Flutamide, Chlorotrianisene, Diethylstilbestrol, Nafarelin, Buserelin, Goserelin INGCODE in (10100047, 10120054,10120100,12160401, 12160411,12160419,68080403, 68080404,68160001,68160004, 68180009,68180013,68180014) and GENDER=1	= .A if no drug information available Note: includes GENDER =2 If INGCODE=12160401 or 12160419 and gender=male, count only if reason for use related to BPH	0=No 1=Yes
Y2PULDRG	Y2: Any pulmonary medication (not oral steriods)	Indicator variable for pulmonary med in Y2MIFCOD based on IDIS code	=1 if any of the following = 1: Y2BRONCH, Y2INCORT, Y2THEOPH, Y2ANLEUC, Y2MASTCL Note: excludes oral steroids	= .A if no drug information available	0=No 1=Yes
Y2PULSTR	Y2: Oral steroid (pulmonary)	Indicator for oral steroid (pulmonary) in Y2MIFCOD based on IDIS code	=1 if INGCODE in (68040006,68040007,68040092) and MIFFORM in (1,2,3) =0 otherwise	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2RXTOT	Y2: Total number of Rx meds	Count of prescrip-tion medications reported by the participant	Y2MIF is sorted by HABCID and DRCOD and only the last of each ID/DRCOD combination is kept. The variable is incremented by 1 each time MIFRX=1	= .A if no drug information available	Number
Y2SALIC	Y2:Salicylate	Indicator variable for oral salicylates in Y2MIFCOD based on IDIS code	Oral salicylates (28080750≤ INGCODE≤28080799) and MIFFRMCOD in (1,2)	= .A if no drug information available	0=No 1=Yes
Y2SSRI	Y2: Anti-depressants: SSRI	Indicator variable for SSRI antidepressant med in Y2MIFCOD based on IDIS code	SSRI antidepressant (28160700 ≤ INGCODE ≤ 28160712)	= .A if no drug information available	0=No 1=Yes
Y2STATIN	Y2: Antilipemic: HMG CoA Reductase inhib. (Statins)	Indicator variable for statin antilipemic in Y2MIFCOD based on IDIS code	Antilipemic Agents (24060000 ≤ INGCODE ≤ 24060299); includes Statins, excludes Fibric Acids	= .A if no drug information available	0=No 1=Yes
Y2THEOPH	Y2: Spasmolytics: Theophylline and others	Indicator variable for theophylline or related med in Y2MIFCOD based on IDIS code	Theophylline, dyphylline, oxytriphylline, aminophylline INGCODE in (86000009, 86000088, 86000084, 86000094)	= .A if no drug information available	0=No 1=Yes
Y2THIAZ	Y2: Thiazide diuretics	Indicator variable for thiazide diuretic in Y2MIFCOD based on IDIS code	Thiazide diuretics (40280100 ≤ INGCODE ≤ 40280199), **does not include indapamide (see Y2INDAPA)**	= .A if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2THYR	Y2: Thyroid agonist	Indicator variable for thyroid agonists in Y2MIFCOD based on IDIS code	Thyroid agonists (68360400≤INGCODE≤ 68360499)	= .A if no drug information available	0=No 1=Yes
Y2TRICYC	Y2: Anti-depressants: Tri/tetracyclics	Indicator variable for tri/tetracyclic antidepressant med in Y2MIFCOD based on IDIS code	Tri/tetracyclic antidepressant (28160600 ≤ INGCODE ≤ 28160697) and MIFFRMCODE≠ 3 (topical)	= .A if no drug information available	0=No 1=Yes
Y2VITD	Y2: Vitamin D Supplement	Indicator variable for calcium supplement in Y2MIFCOD based on IDIS code	Vitamin D (88160000≤INGCODE < 88160100)	= .A if no drug information available	0=No 1=Yes

Documentation for Year 2 Calculated Variable Dataset
(Y2Calc)

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Appendix I Calculated Variable List

Appendix II Anthropometric Measures -- Derived Variables

Appendix III Blood Pressure Calculated Variables

Appendix IV Knee Pain Indicator Variables

Appendix V Long Distance Corridor Walk Calculated Variables

Appendix VI Performance Measure Calculated Variables (Core Home Visit only)

Appendix VII Physical Activity Calculated Variables

Appendix VIII Self-Reported Function Calculated Variables

Appendix IX 20-Meter Walk Calculated Variables

YEAR 2 CALCULATED VARIABLE DATASET (Y2Calc)

1. General description

The Y2calc contains 66 variables derived (calculated) as described below. The documentation is grouped by the type of data from which the variables are calculated (anthropometry, physical activity, etc.), and the variables are positioned in the dataset in the same groupings.

There are 3075 observations in the Y2calc file.

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under Y2calc) and in Appendix I. NOTE: SOME CALCULATED VARIABLES USE THE SAME VARIABLE NAMES EVERY YEAR. THE ANALYST IS REMINDED TO RENAME VARIABLES BEFORE MERGING WITH OTHER YEARS AS NECESSARY.

3. Dataset structure and contents

The Y2calc file contains a single observation per participant.

Key variables:

HABCID	Health ABC Enrollment ID# without the 2-letter prefix
GENDER	Gender (1=Male; 2=Female)*
RACE	Race (1=White; 2=Black)*
RACEGEN	Race-gender group (1=White male, 2=White female, 3=Black* male, 4=Black female) *
SITE	Clinic Site (1=Memphis, 2=Pittsburgh)*

4. Condition of data

a. Strengths and weaknesses of dataset items: When a calculated variable includes imputations for missing variables, the method of imputation is **bolded** in the documentation.

As of this release, a thorough comparison across years of heights and weights has been carried out, which allowed us to identify a small number of impossible values. Where these could be traced to incorrectly scanned or edited data, the data were corrected. When it was impossible to know what the correct value was, but it was certain that the recorded value was incorrect (e.g., a participant's height having changed by 6 inches in one year and then changed back the next time it was measured), the erroneous data were simply blanked out. Thus two values of BMI and 1 of BMICAT have changed.

* Must link to Health ABC participant history file (PH) to add this variable.

One new variable has been added for this release: Y2WTK gives the year 2 weight in kg for all participants, regardless if they were measured in kg (in the clinic) or lb (in the home). This variable was added to allow easy comparison to other years.

The performance measures were done only at the home visit, and thus performance measure calculated variables are included only for the 98 participants with VISITYPE=1. These calculated variables (see Appendix VI) have been thoroughly examined and corrected. The investigator who designed these variables created them to mimic the way things were done in the EPESE study, so certain recodes were made when calculating them. Most importantly, in EPESE, the full-tandem stand was not supposed to be administered unless the semi-tandem stand was held for 10 seconds. In Health ABC the full-tandem stand was supposed to be administered if the ST stand has held for least 1 second. Similarly, in EPESE, the one-leg stand was not administered if the full-tandem stand was not held for the full 30 seconds, while in Health ABC this stand was administered if the participant held the full-tandem for at least 1 second. In addition, balance walks variables originally set to 0 when refused or entirely missing are now set to missing. These corrections resulted in a number of changes to these variables, and analysts are advised to rerun any analyses pertaining to these variables using the latest dataset.

Some of the physical activity questions were asked differently depending on whether the participant had a home or clinic visit, so the detailed documentation in Appendix II through IX is separated by source of data (clinic vs. core home visit). Thus, a variable might be missing for one subset of participants (usually those who had a home visit, eg. BCEWKKWK and BCOWKKWK), but not for the other. In the case of these two particular variables, a composite variable BCTWKKWK was created that combines the information from the two individual calculated variables from the clinic visit, since the question about walking was combined for exercise and other walking in the Core Home Visit Workbook. In some cases, the summary variable calculated from individual calculated variables could be calculated when the individual calculated variable could not. This is particularly the case for WSKKWK, because the composite variable BCTWKKWK could be substituted for the missing individual variables BCEWKKWK and BCOWKKWK.

5. Dataset index formulation and key variable mapping

The Y2calc file is sorted by HABCID, which is a unique identifier for each participant.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets.

Appendix I
CALCULATED VARIABLE LIST
(LINKED)

Variable	Variable Description	Grouping
BMI	BMI, kg/ m2	Anthropometry
BMICAT	BMI category	Anthropometry
Y2WTK	Weight (kg)	Anthropometry
DIABP	Avg sitting diastolic BP, mm Hg	Blood pressure
SYSBP	Avg sitting systolic BP, mm Hg	Blood pressure
Y2KP12MO	Knee pain (either) most days past 12 mo	Knee pain
Y2KPACT	Knee pain with activity – either knee	Knee pain
Y2KPSIG	Knee pain case – either knee	Knee pain
Y2LKP12M	Left knee pain most days past 12 mo	Knee pain
Y2KP30DA	Knee pain (either) most days in past 30	Knee pain
Y2LKP30D	Left knee pain most days in past 30	Knee pain
Y2RKP30D	Right knee pain most days in past 30	Knee pain
Y2LKPACT	Left knee pain with activity	Knee pain
Y2LKPSIG	Left knee pain with case	Knee pain
Y2LWOMAC	Left knee activity pain – Likert scale	Knee pain
Y2LPLIK	Left knee activity pain – Likert scale (home version)	Knee pain
Y2RKP12M	Right knee pain most days past 12 mo	Knee pain
Y2RKPACT	Right knee pain with activity	Knee pain
Y2RKPSIG	Right knee pain case	Knee pain
Y2RWOMAC	Right knee activity pain – Likert scale	Knee pain
Y2RPLIK	Right knee activity pain – Likert scale (home version)	Knee pain
B32SUM	2-minute walk distance	Long Distance Corridor Walk Calculated Vars.
B34SUM	400m walk distance	Long Distance Corridor Walk Calculated Vars.
EXCLUDE2	LDCW exclusion code	Long Distance Corridor Walk Calculated Vars.
HOWFARY2	LDCW completion status	Long Distance Corridor Walk Calculated Vars.
Y2400MSD	Walking speed over 400m – completed LDCW only	Long Distance Corridor Walk Calculated Vars.
Y2DID2MW	Completed 2-minute walk (yes/no)	Long Distance Corridor Walk Calculated Vars.

Variable	Variable Description	Grouping
Y2DID400	Completed 400m walk (yes/no)	Long Distance Corridor Walk Calculated Vars.
Y2V2MINM	Meters walked in 2 minutes – complete 2-min walk only	Long Distance Corridor Walk Calculated Vars.
Y2V400MT	Time to walk 400m – complete LDCW only	Long Distance Corridor Walk Calculated Vars.
ABLE5CS	Did 5 chair stands	Performance Measure Calculated Variables
CAT5CS	EPESE score for chair stands	Performance Measure Calculated Variables
CHR5PACE	Chair stands per second	Performance Measure Calculated Variables
CSRATIO	Chair stands performance ratio	Performance Measure Calculated Variables
FSBRATIO	Standing balance performance ratio	Performance Measure Calculated Variables
FSBTIME	Full standing balance test time (0-90 sec)	Performance Measure Calculated Variables
SBSCORE	EPESE score for standing balance	Performance Measure Calculated Variables
BCCWKKWK	Kcal/ kg/ week doing child/adult care	Physical activity
BCEWKKWK	Kcal/ kg/ week walking for exercise	Physical activity
BCFSKKWK	Kcal/ kg/ week climbing stairs	Physical activity
BCMCKKWK	Kcal/ kg/ week doing major chores	Physical activity
BCOWKKWK	Kcal/ kg/ week doing other walking	Physical activity
BCPWKKWK	Kcal/ kg/ week doing paid work	Physical activity
BCTWKKWK	Kcal/ kg/ week total walking	Physical activity
BCVWKKWK	Kcal/ kg/ week doing volunteer work	Physical activity
BKTWTIME	Minutes waling briskly/week	Physical activity
BRISK180	Walks briskly ≥ 180 min/ week	Physical activity
BRISK90	Walks briskly ≥ 90 min/ week	Physical activity
WALKCAT	Minutes walking/ week category	Physical activity
WALKTIME	Minutes walking/ week	Physical activity
WSKKWK	Kcal/ kg/ week – walking + stairs	Physical activity
WVCKKWK	Kcal/ kg/ week – work, vol, caregiving	Physical activity
CSAINDEX	Climbing stairs ability index, 9= best	Self-reported function
EASE10P	Ease lift / carry 10 lbs, 6= very easy	Self-reported function
EASE1F	Ease climbing 1 flight, 6= very easy	Self-reported function
EASE1M	Ease walking 1 mile, 3= very easy	Self-reported function

Variable	Variable Description	Grouping
EASE20P	Ease lift / carry 20 lbs, 3= very easy	Self-reported function
EASE2F	Ease climbing 2 flights, 6= very easy	Self-reported function
EASEHHW	Ease doing heavy work, 6= very easy	Self-reported function
EASEQM	Ease walking 1/4 mile, 6= very easy	Self-reported function
EASESCK	Ease stooping, 6= very easy	Self-reported function
EASEUP	Ease rising from chair, 6= very easy	Self-reported function
LCAINDEX	Lift/ carry ability index, 9= best	Self-reported function
WKAINDEX	Walking ability index, 9= best	Self-reported function
Y2R20MSD	Fast walking speed (m/sec) over 20m	20-meter walk variables
Y2U20MSD	Usual walking speed (m/sec) over 20m	20-meter walk variables

Appendix II
Anthropometric Measures -- Derived Variables

Investigator Name: **Jill A. Bennett**
Analysis Plan Reference #: **AP99-36**

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
BMI	Body Mass Index	Weight in kg / height in meters squared	1. Weight in kg = B2WTK or Z2WTLBS*0.45359 2. Height in meters squared = P2SH divided by 1000 (to change mm to meters) then that number is squared 3. Divide weight in kg by the number derived in step 2	If B2WTK and Z2WTLBS are both missing or P2SH is missing, BMI=.M	kg/m2
Y2WTK	Weight	Weight in kg	Y2WTK = B2WTK or Z2WTLBS*0.45359	n/a	kg

Investigator Name: **Michael Nevitt**

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
BMICAT	Body Mass Index Category	Body mass categories according to NIH guidelines	BMICAT=1(normal) if BMI<25 BMICAT=2(overweight) if 25≤BMI<30 BMICAT=3(obese) if BMI ge 30	If BMI is missing, BMICAT=.M	unitless

```
*EK removed skipped section  (obsolete) 6/1/09;
OPTIONS PAGESIZE=60 LINESIZE=94 NOFMTERR;
title 'Project: Health ABC';
title2 'Program: BMI_Y2.SAS';

*proc contents data=habc2.z2;
run;

* YEAR 2 BMI - calculated from y1 height and y2 weight*;
data y1hgt;
  set current.y1calc(keep=habcid p2sh);
run;
data b1;
  set habc2.b1(keep=habcid b1wtk);
run;
data z2;
  set habc2.z2(keep=habcid z2wtlbs z2type);
  if z2type=2;
  z2wtk=0.45359*z2wtlbs;
run;
data calc;
  merge y1hgt(in=iny1) b1(in=iny2);
  by habcid;
  if iny2 and iny1;
  BMI=b1wtk/((p2sh/1000)**2);
run;
data calch;
  merge y1hgt(in=iny1) z2(in=iny2);
  by habcid;
  if iny2 and iny1;
  BMI=z2wtk/((p2sh/1000)**2);
run;
*Add in calculated variable Y2WTK EK 6/1/09;
data calc.y2bmi(keep=HABCID BMI BMICAT Y2WTK);
  set calc (rename=(b1wtk=Y2WTK)) calch (rename=(z2wtk=Y2WTK));
  by habcid;
  if not (first.habcid and last.habcid) then put 'DUPLICATE: ' _all_;
  if .z< bmi< 25 then BMICAT=1; else
  if 25<=bmi< 30 then bmicat=2; else
  if     bmi>=30 then bmicat=3;
  label bmicat='BMI category'
        bmi='BMI, kg/m2'
            Y2WTK='Year 2 weight (kg)';
  format bmicat bmicf.;
run;
proc sort data=calc.y2bmi out=temp;
  by bmicat;
run;
proc univariate data=temp;
  by bmicat;
  var bmi;
  title4 'Distribution of BMI within each BMICAT';
run;
```

Appendix III
Blood Pressure Calculated Variables

Investigator Name: Mikki Danielson

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
SYSBP	Avg sitting systolic BP	Avg of two measurements of sitting systolic BP (mmHg)	SYSBP=(B1SYS+B1SY2)/2 or SYSBP=(Z2SYS+Z2SY2)/2	If only 1 trial, then use that trial as BP If B1DIA or B1DIA2<30, set them =30 before averaging	mm Hg
DIABP	Avg sitting diastolic BP	Avg of two measurements of sitting diastolic BP (mmHg)	DIABP=(B1DIA+B1DIA2)/2 or SYSBP=(Z2DIA+Z2DIA2)/2	If only 1 trial, then use that trial as BP; If B1DIA, Z2DIA B1DIA2, or Z2DIA2<30, set them =30 before averaging	mm Hg

```
%macro skip;
SIGNON MISFIT;
RSUBMIT ;

filename init    'e:\macuam\habc_sas\programs\initr.sas';
%include init;   *contains libname/filename;

*CALC: Temporary place for test datasets*;
libname calc 'e:\macuam\habc_sas\programs\fran\calculated
variables\year2\datasets';
libname daf2  'e:\macuam\habc_sas\data analysis file\version2-0\SAS datasets';
%mend skip;
title 'Project: Health ABC';
title2 'Program: BP_y2.sas';
OPTIONS PAGESIZE=60 LINESIZE=94 NOFMTERR;

*YEAR 2 blood pressure vars*;

data bp(keep=habcid sysbp diabp);
  set habc2.b1(keep=habcid b1sys b1sy2 b1dia b1dia2);
  if b1dia >.z then b1dia =max(b1dia ,30);
  if b1dia2>.z then b1dia2=max(b1dia2,30);
  SYSBP=(b1SYS+b1SY2)/2;
  DIABP=(b1DIA+b1DIA2)/2;
  IF b1SYS<=.z THEN SYSBP=b1SY2; ELSE
  IF b1SY2<=.z THEN SYSBP=b1SYS;
  IF b1DIA<=.z THEN DIABP=b1DIA2; ELSE
  IF b1DIA2<=.z THEN DIABP=b1DIA;
run;
data bph(keep=habcid sysbp diabp);
  set habc2.z2(keep=habcid z2sys z2sy2 z2dia z2dia2 z2type);
  if z2type=2;
  if z2dia >.z then z2dia =max(z2dia ,30);
  if z2dia2>.z then z2dia2=max(z2dia2,30);
  SYSBP=(z2SYS+z2SY2)/2;
  DIABP=(z2DIA+z2DIA2)/2;
  IF z2SYS<=.z THEN SYSBP=z2SY2; ELSE
  IF z2SY2<=.z THEN SYSBP=z2SYS;
  IF z2DIA<=.z THEN DIABP=z2DIA2; ELSE
  IF z2DIA2<=.z THEN DIABP=z2DIA;
run;
data calc.y2bp;
  set bp bph;
  by habcid;
  if not(first.habcid and last.habcid) then put 'DUPLICATE: ' _all_;
  label sysbp='Avg sitting systolic BP, mm Hg'
        diabp='Avg sitting diastolic BP, mm Hg';
run;
proc univariate data=calc.y2bp;
 title4 'Distribution of bp calc vars';
run;

*ENDRSUBMIT ;
```

Appendix IV
Knee Pain Indicator Variables
Using Clinic Visit Workbook Variables

Investigator Name: Michael Nevitt

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2KP12MO	Knee pain (either knee) most days past 12 months	Knee pain in either knee lasting at least a month during last 12 months	Knee pain lasting at least a month during last 12 months (B4AJRKMD=1 OR BRAJLKMD=1)	Missing or Refused is treated as No	0=No 1=Yes
Y2LKP12M	Left knee pain most days past 12 months	Left knee pain most days past 12 months	Knee pain lasting at least a month in left knee during last 12 months (B4AJLKMD=1)	Missing, Don't know treated as No	0=No 1=Yes
Y2RKP12M	Right knee pain most days past 12 months	Right knee pain most days past 12 months	Knee pain lasting at least a month in right knee during last 12 months (B4AJRKMD=1)	Missing, Don't know treated as No	0=No 1=Yes
Y2RKP30D	Knee pain right knee most days in last 30	Knee pain in right knee most days in past 30	R knee pain most days in last 30 days (B4AJRKMS=1) If B4AJRKMSin (0,8) or B4AJRK30in (0,8) or B4AJK12in (0,8) then KP30DA=0	If B4AJRKMS≠0 and B4AJRK30 not in (0,8) and B4AJK12 not in (0,8) and B4AJRKMS≠1, then KP30B4=.	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2LKP30D	Knee pain left knee most days in last 30	Knee pain in left knee most days in past 30	L knee pain most days in last 30 days (B4AJLKMS=1) If B4AJLKMS=0 or B4AJLK30in (0,8) or B4AJK12in (0,8) then KP30DA=0	If B4AJLKMS≠0 and B4AJLK30 not in (0,8) and B4AJK12 not in (0,8) and B4AJLKMS≠1, then Y2KP30DA=.	0=No 1=Yes
Y2KP30DA	Knee pain either knee most days in last 30	Knee pain (either) most days in past 30	If Y2RKP30D=1 or Y2LKP30D=1 then Y2KP30D=1; otherwise If Y2RKP30D=0 or Y2LKP30D=0 then Y2KP30D=0	If Y2RKP30D≠0 and Y2LKP30D≠0 and Y2RKP30D≠1 and Y2LKP30D≠1, then Y2KP30DA=.	0=No 1=Yes
Y2LKPACT	Left knee pain with activity	Moderate or worse left knee pain in past 30 days on one or more activities in WOMAC scale	If any of the following are marked moderate, severe, or extreme (2, 3, or 4): pain in left knee during last 30 days when: walking on flat surface (B4AJLKFS), going up or down stairs (B4AJLKST), at night in bed (B4AJLKBD), standing upright (B4AJLKUP), getting in/out of chair (B4AJLKCH), getting in/out of car (B4AJLKN)	If >2 of variables are missing, then YlLKPACT is set to missing Missings and don't knows set to 0 for each component variable unless all of them are missing.	0=No 1=Yes
Y2LWOMAC*	Left knee activity pain - Likert scale	Sum of left knee activity pain scores for 6 activities in WOMAC	sum of (B4AJLKFS, B4AJLKST, B4AJLKBD, B4AJLKUP, B4AJLKCH, B4AJLKN)	If >2 of variables are missing, then Y2LWOMAC is set to Missing, otherwise Missing or Don't know set to 0 (No) before summing and then Y2LWOMAC is pro-rated	

*** Note: Only the participants who have had knee pain in the past 12 months lasting at least one month go on to answer the activity pain items in Year 1. In later years, the criteria for who goes on to answer the activity pain items are loosened and a larger group of participants have a WOMAC score for each knee.**

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2RKPACT	Right knee pain with activity	Moderate or worse right knee pain in past 30 days on one or more activities in WOMAC scale	If any of the following are marked moderate, severe, or extreme (2, 3, or 4): pain in right knee during last 30 days when: walking on flat surface (B4AJRKFS), going up or down stairs (B4AJRKST), at night in bed (B4AJRKBD), standing upright (B4AJRKUP), getting in/out of chair (B4AJRKCH), getting in/out of car (B4AJRKIN)	If >2 of variables are missing, then Y2RKPACT is set to missing Missings and don't knows set to 0 for each component variable unless all of them are missing.	0=No 1=Yes
Y2RWOMAC*	Right knee activity pain - Likert scale	Sum of right knee activity pain scores for 6 activities in WOMAC	sum of (B4AJRKFS, B4AJRKST, B4AJRKBD, B4AJKRUP, B4AJRKCH, B4AJRKIN)	If >2 of variables are missing, then Y2RWOMAC is set to Missing, otherwise Missing or Don't know set to 0 (No) before summing and then Y2RWOMAC is pro-rated	
Y2KPACT	Knee pain with activity (either knee)	Moderate or worse pain with activity in either knee	=1 if Y2LKPACT=1 or Y2RKPACT=1 otherwise, =0 if Y2LKPACT=0 or Y2RKPACT=0	If either Y2LKPACT or Y2RKPACT is missing, Y2KPACT is missing	0=No 1=Yes

*** Note: Only the participants who have had knee pain in the past 12 months lasting at least one month go on to answer the activity pain items in Year 1. In later years, the criteria for who goes on to answer the activity pain items are loosened and a larger group of participants have a WOMAC score for each knee.**

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2LKPSIG	Left knee pain case	Indicator variable for knee pain case definition (left knee)	If any of the following are marked moderate, severe, or extreme (2, 3, or 4): pain in left knee during last 30 days when: walking on flat surface (B4AJLKFS), going up or down stairs (B4AJLKST), at night in bed B4AJLKBD), standing upright (B4AJLKUP), getting in/out of chair (B4AJLKCH), getting in/out of car (B4AJLKN) or left knee pain lasting ≥1month in past 12 months (B4AJLKMD=1) or knee pain on most days in past 30 (B4AJLKMS=1) then Y2LKPSIG=1	Missing, Don't know treated as No If knee pain, aching, stiffness in last 12 months (B4AJLK12) or knee pain, aching, stiffness in last 30 days (B4AJLK30) is missing or refused, then Y2LKPSIG= .	0=No 1=Yes
Y2RKPSIG	Right knee pain case	Indicator variable for knee pain case definition (right knee)	If any of the following are marked moderate, severe, or extreme (2, 3, or 4): pain in right knee during last 30 days when: walking on flat surface (B4AJRKFS), going up or down stairs (B4AJRKST), at night in bed (B4AJRKBD), standing upright (B4AJKRUP), getting in/out of chair (B4AJRKCH), getting in/out of car (B4AJRKIN) or right knee pain lasting ≥1month in past 12 months (B4AJRKMD=1) or knee pain on most days in past 30 (B4AJLKMS=1) then Y2RKPSIG=1	Missing, Don't know treated as No If knee pain, aching, stiffness in last 12 months (B4AJRK12) or knee pain, aching, stiffness in last 30 days (B4AJRK30) is missing or refused, then Y2RKPSIG= .	0=No 1=Yes
Y2KPSIG	Knee pain case - either knee	Either knee meets case definition	=1 if Y2LKPSIG=1 or Y2RKPSIG=1 =0 otherwise	Missing is treated as No	0=No 1=Yes

Knee Pain Indicator Variables

Using Core Home Visit Workbook Variables

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2KP12MO	Knee pain (either knee) most days past 12 months	Knee pain in either knee lasting at least a month during last 12 months	If knee pain lasting at least a month during last 12 months (ZAAJKMD=1), then Y2KP12MO=1; else if ZAAJK12 in (0,8) or ZAAJKMD=0, then Y2KP12MO=0; else Y2KP12MO is missing		0=No 1=Yes
Y2LKP12M	Left knee pain most days past 12 months	Left knee pain most days past 12 months	If ZAAJLRB1 in (2,3) then Y2LKP12M=1; else Y2LKP12M=0	If Y2KP12MO is missing then Y2LKP12M is missing	0=No 1=Yes
Y2RKP12M	Right knee pain most days past 12 months	Right knee pain most days past 12 months	If ZAAJLRB1 in (1,3) then Y2RKP12M=1; else Y2RKP12M=0	If Y2KP12MO is missing then Y2RKP12M is missing	0=No 1=Yes
Y2KP30DA	Knee pain either knee most days in last 30	Knee pain (either) most days in past 30	Knee pain most days in last 30 days (ZAAJKMS=1) If ZAAJKMS in (0,8) or ZAAJK30 in (0,8) or ZAAJK12 in (0,8) then Y2KP30DA=0	If ZAAJKMS not in (0,8) and ZAAJK30 not in (0,8) and ZAAJK12 not in (0,8) and ZAAJKMS≠1, then Y2KP30DA=.	0=No 1=Yes
Y2LKP30D	Left knee pain knee most days in last 30	Left knee pain most days in past 30	N/A because the questions are asked differently and could not be calculated		
Y2RKP30D	Right knee pain knee most days in last 30	Right knee pain most days in past 30	N/A because the questions are asked differently and could not be calculated		

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2KPACT	Knee pain with activity (either knee)	Moderate or worse knee pain (either knee) in past 30 days on one or more activities in WOMAC scale	If any of the following are marked moderate, severe, or extreme (2, 3, or 4): pain in either knee during last 30 days when: walking on flat surface (ZAAJKFS), going up or down stairs (ZAAJKST), at night in bed (ZAAJKBD), standing upright (ZAAJKUP), getting in/out of chair (ZAAJKCH), getting in/out of car (ZAAJKIN); If ZAAJK30=0 or ZAAJK12=0, then Y2KPACT=0.	If >2 of variables are missing, then YlKPACT is set to missing Missings and don't knows set to 0 for each component variable unless all of them are missing.	0=No 1=Yes
Y2LKPACT	Left knee pain with activity	Moderate or worse left knee pain in past 30 days on one or more activities in WOMAC scale	If ZAAJLRB2 in (2,3) then Y2LKPACT=Y2KPACT	If ZAAJLRB2=8 and ZAAJK30 not in (0,8) and ZAAJK12 not in (0,8) then Y2LKPACT is missing	0=No 1=Yes
Y2LPLIK	Left knee activity pain - Likert scale (home version of question)	Sum of left knee activity pain scores for 6 activities in WOMAC	If ZAAJLRB2 in (2, 3) then Y2LPLIK= sum of (ZAAJKFS, ZAAJKST, ZAAJKBD, ZAAJKUP, ZAAJKCH, ZAAJKIN)	If >2 of variables are missing, then Y2LPLIK is set to Missing, otherwise Missing or Refused set to 0 (No) before summing and then Y2LPLIK is pro-rated; if ZAAJLRB2 =8 and ZAAJK30 not in (0,8) and ZAAJK12 not in (0,8) then Y2LPLIK= 0; if Y2LKPACT=0 and Y2LPLIK<0 then Y2LPLIK=0	

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2RKPACT	Right knee pain with activity	Moderate or worse right knee pain in past 30 days on one or more activities in WOMAC scale	If ZAAJLRB2 in (1,3) then Y2LKPACT=Y2KPACT	If ZAAJLRB2=8 and ZAAJK30 not in (0,8) and ZAAJK12 not in (0,8) then Y2RKPACT is missing	0=No 1=Yes
Y2RPLIK	Right knee activity pain - Likert scale (home version of question)	Sum of right knee activity pain scores for 6 activities in WOMAC	If ZAAJLRB2 in (1, 3) then Y2RPLIK= sum of (ZAAJKFS, ZAAJKST, ZAAJKBD, ZAAJKUP, ZAAJKCH, ZAAJKIN)	If >2 of variables are missing, then Y2RPLIK is set to Missing, otherwise Missing or Don't know set to 0 (No) before summing and then Y2RPLIK is pro-rated; if ZAAJLRB2=8 and ZAAJK30 not in (0,8) and ZAAJK12 not in (0,8) then then Y2RPLIK=0; if Y2RKPACT=0 and Y2RPLIK<0, then Y2RPLIK=0	

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2KPSIG	Knee pain case - either knee	Indicator variable for knee pain case definition (either knee)	If any of the following are marked moderate, severe, or extreme (2, 3, or 4): pain in either knee during last 30 days when: walking on flat surface (ZAAJKFS), going up or down stairs (ZAAJKST), at night in bed ZAAJKBD), standing upright (ZAAJKUP), getting in/out of chair (ZAAJKCH), getting in/out of car (ZAAJKIN) or either knee pain lasting ≥1month in past 12 months (ZAAJKMD=1) or either knee pain for most days in last 30 (ZAAJKMS=1) then Y2KPSIG=1	Missing, Don't know treated as No If knee pain, aching, stiffness in last 12 months (ZAAJLK12) is missing or refused, then Y2KPSIG= .	0=No 1=Yes
Y2LKPSIG	Left knee pain case	Indicator variable for knee pain case definition (left knee)	If [ZAAJKMD=1 and ZAAJLRB1 in (2,3)] or [ZAAJKMS=1 and ZAAJLRB2 in (2,3)] then Y2LKPSIG=1. Otherwise Y2LKPSIG=0.	If ZAAJLRB1 and ZAAJLRB2 are both missing or don't know, then Y2LKPSIG is missing.	0=No 1=Yes
Y2RKPSIG	Right knee pain case	Indicator variable for knee pain case definition (right knee)	If [ZAAJKMD=1 and ZAAJLRB1 in (1,3)] or [ZAAJKMS=1 and ZAAJLRB2 in (1,3)] then Y2RKPSIG=1. Otherwise Y2RKPSIG=0.	If ZAAJLRB1 and ZAAJLRB2 are both missing or don't know, then Y2RKPSIG is missing.	0=No 1=Yes

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OPTIONS PAGESIZE=60 LINESIZE=94 nocenter formchar='|----|+|---+=|-/\<>*'
NOFMTERR;
TITLE 'Project: Health ABC';
TITLE2 'Program: Kneepain_y2.sas';

data pain;
  set current.y2clnvis(keep=habcid
          b4ajlk12 b4ajlkmd b4ajlk30 b4ajlkms
          b4ajlkfs b4ajlkst b4ajlkbd b4ajlkup b4ajlkch b4ajlkn
          b4ajrk12 b4ajrkmd b4ajrk30 b4ajrkms
          b4ajrkfs b4ajrkst b4ajrkbd b4ajrkup b4ajrkch b4ajrkin);

  *Delete those with all missing data. Some will be filled in by home visits.*;
  if (b4ajlk12<0 and b4ajlkmd<0 and b4ajlk30<0 and b4ajlkms<0 and
      b4ajlkfs<0 and b4ajlkst<0 and b4ajlkbd<0 and b4ajlkup<0 and b4ajlkch<0 and
b4ajlkn<0 and
      b4ajrk12<0 and b4ajrkmd<0 and b4ajrk30<0 and b4ajrkms<0 and
      b4ajrkfs<0 and b4ajrkst<0 and b4ajrkbd<0 and b4ajrkup<0 and b4ajrkch<0 and
b4ajrkin<0)
    then delete;

  *** Calculate pain variables ***;
  if b4ajlkmd=1 or
        (b4ajlkms=1 or
         (b4ajlkfs in(2,3,4) or
          b4ajlkst in(2,3,4) or
          b4ajlkbd in(2,3,4) or
          b4ajlkup in(2,3,4) or
          b4ajlkch in(2,3,4) or
          b4ajlkn in(2,3,4)))
       then Y2LKPSIG=1;
     else y2lkpsig=0;
  if (b4ajlk12<=.z or b4ajlk12=7) and (b4ajlk30<=.z or b4ajlk30=7) then
y2lkpsig=.;

  if b4ajrkmd=1 or
        (b4ajrkms=1 or
         (b4ajrkfs in(2,3,4) or
          b4ajrkst in(2,3,4) or
          b4ajrkbd in(2,3,4) or
          b4ajrkup in(2,3,4) or
          b4ajrkch in(2,3,4) or
          b4ajrkin in(2,3,4)))
       then Y2RKPSIG=1;
     else y2rkpsig=0;
  if (b4ajrk12<=.z or b4ajrk12=7) and (b4ajrk30<=.z or b4ajrk30=7) then
y2rkpsig=.;

  if y2lkpsig=1 or y2rkpsig=1 then Y2KPSIG=1; else
  if y2lkpsig=0 or y2rkpsig=0 then y2kpsig=0; else
                                   y2kpsig=.;

  if b4ajrkmd=1 or b4ajlkmd=1 then Y2KP12MO=1; else Y2KP12MO=0;
  if b4ajrkmd=1 then Y2RKP12M=1; else Y2RKP12M=0;
  if b4ajlkmd=1 then Y2LKP12M=1; else Y2LKP12M=0;
  if (b4ajrk12<0 or b4ajrk12=7) and (b4ajrkmd<0) then y2rkp12m=.;
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  if (b4ajlk12<0 or b4ajlk12=7) and (b4ajlkmd<0) then y2lkp12m=.;
  if y2rkp12m=. and y2lkp12m=. then y2kp12mo=.;

  /*** 30-DAY KNEE PAIN ***/
  if b4ajrkms=1                                                    then
Y2RKP30D=1; else
  if (b4ajrkms in (0,8) or b4ajrk30 in (0,8) or b4ajrk12 in (0,8)) then
y2rkp30d=0; else

y2rkp30d=.;
  if b4ajlkms=1                                                    then
Y2LKP30D=1; else
  if (b4ajlkms in (0,8) or b4ajlk30 in (0,8) or b4ajlk12 in (0,8)) then
y2lkp30d=0; else

y2lkp30d=.;

  if y2rkp30d=1 or y2lkp30d=1  then Y2KP30DA=1; else
  if y2rkp30d=0 or y2lkp30d=0  then Y2KP30DA=0; else
  if y2rkp30d=. and y2lkp30d=. then y2kp30da=.;

 *** Count # of missings in activity pain scores before setting to 0 ***;
 nmissr=nmiss(b4ajrkfs,b4ajrkst,b4ajrkbd,b4ajrkup,b4ajrkch,b4ajrkin);
 nmissl=nmiss(b4ajlkfs,b4ajlkst,b4ajlkbd,b4ajlkup,b4ajlkch,b4ajlkn);

  if b4ajrkfs in (2,3,4) or
     b4ajrkst in (2,3,4) or
     b4ajrkbd in (2,3,4) or
     b4ajrkup in (2,3,4) or
     b4ajrkch in (2,3,4) or
     b4ajrkin in (2,3,4)
     then Y2RKPACT=1; else Y2RKPACT=0;
  if b4ajlkn  in (2,3,4) or
     b4ajlkfs in (2,3,4) or
     b4ajlkst in (2,3,4) or
     b4ajlkbd in (2,3,4) or
     b4ajlkup in (2,3,4) or
     b4ajlkch in (2,3,4)
     then Y2LKPACT=1; else Y2LKPACT=0;
  if (b4ajrk30 not in (0,8) and b4ajrk12 not in (0,8) and nmissr>2) then
y2rkpact=.;
  if (b4ajlk30 not in (0,8) and b4ajlk12 not in (0,8) and nmissl>2) then
y2lkpact=.;
  if y2rkpact=1 or y2lkpact=1 then Y2KPACT=1; else
  if y2rkpact=0 or y2lkpact=0 then y2kpact=0; else
                                   y2kpact=.;


 *** Change missing and don't knows to 0 per M.Nevitt ***;
  ** (Unless the whole knee pain data is missing) **;
  if not (b4ajrk12<=.z) then do;
    if b4ajrkfs not in(0,1,2,3,4) then b4ajrkfs=0;
    if b4ajrkst not in(0,1,2,3,4) then b4ajrkst=0;
    if b4ajrkbd not in(0,1,2,3,4) then b4ajrkbd=0;
    if b4ajrkup not in(0,1,2,3,4) then b4ajrkup=0;
    if b4ajrkch not in(0,1,2,3,4) then b4ajrkch=0;
    if b4ajrkin not in(0,1,2,3,4) then b4ajrkin=0;
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  end;
  if not (b4ajlk12<=.z) then do;
    if b4ajlkfs not in(0,1,2,3,4) then b4ajlkfs=0;
    if b4ajlkst not in(0,1,2,3,4) then b4ajlkst=0;
    if b4ajlkbd not in(0,1,2,3,4) then b4ajlkbd=0;
    if b4ajlkup not in(0,1,2,3,4) then b4ajlkup=0;
    if b4ajlkch not in(0,1,2,3,4) then b4ajlkch=0;
    if b4ajlkn not in(0,1,2,3,4) then b4ajlkn=0;
  end;

  *** Create summary scores for activities ***;
  Y2RWOMAC=sum(b4ajrkfs,b4ajrkst,b4ajrkbd,b4ajrkup,b4ajrkch,b4ajrkin);
  Y2LWOMAC=sum(b4ajlkfs,b4ajlkst,b4ajlkbd,b4ajlkup,b4ajlkch,b4ajlkn);

  if b4ajrk30=0 or b4ajrk12=0 then y2rwomac=0; else
  if (b4ajrk30 ne 0 and b4ajrk12 ne 0 and nmissr>2) then y2rwomac=.; else
  if nmissr in (1,2) then y2rwomac=(y2rwomac/(6-nmissr))*6;

  if b4ajlk30=0 or b4ajlk12=0 then y2lwomac=0; else
  if (b4ajlk30 ne 0 and b4ajlk12 ne 0 and nmissl>2) then y2lwomac=.; else
  if nmissr in (1,2) then y2lwomac=(y2lwomac/(6-nmissl))*6;
run;


* Calculate for home visits *;
data home;
  set current.y2corehv(keep=habcid zatype
              zaajk12 zaajkmd zaajlrb1 zaajk30 zaajkms
              zaajkfs zaajkst zaajkbd zaajkup zaajkch zaajkin zaajlrb2);

  *if zatype=2;

  *** Calculate pain variables ***;
  if zaajkmd=1 or
        (zaajkms=1  or
         (zaajkfs in(2,3,4) or
          zaajkst in(2,3,4) or
          zaajkbd in(2,3,4) or
          zaajkup in(2,3,4) or
          zaajkch in(2,3,4) or
          zaajkin in(2,3,4)))
       then y2kpsig=1;
     else y2kpsig=0;

  *Assign to r or l knee for 1st criteria*;
  if zaajkmd=1 then do;
     if zaajlrb1=1 then do;
        lkpsig1=0;
        rkpsig1=1;
     end; else
     if zaajlrb1=2 then do;
        lkpsig1=1;
        rkpsig1=0;
     end; else
     if zaajlrb1=3 then do;
        lkpsig1=1;
        rkpsig1=1;
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      end; else
      if zaajlrb1=8 then do;
         lkpsig1=.;
         rkpsig1=.;
      end;
   end;

   *Assign to r or l knee for 2nd criteria*;
   if (zaajkms=1  or
          (zaajkfs in(2,3,4) or
           zaajkst in(2,3,4) or
           zaajkbd in(2,3,4) or
           zaajkup in(2,3,4) or
           zaajkch in(2,3,4) or
           zaajkin in(2,3,4))) then do;
      if zaajlrb2=1 then do;
         lkpsig2=0;
         rkpsig2=1;
      end; else
      if zaajlrb2=2 then do;
         lkpsig2=1;
         rkpsig2=0;
      end; else
      if zaajlrb2=3 then do;
         lkpsig2=1;
         rkpsig2=1;
      end; else
      if zaajlrb2=8 then do;
         lkpsig2=.;
         rkpsig2=.;
      end;
   end;
   y2lkpsig=max(lkpsig1,lkpsig2);
   y2rkpsig=max(rkpsig1,rkpsig2);
   if zaajk12<=.z or zaajk12=7 then do;
      y2kpsig=.;
      y2lkpsig=.;
      y2rkpsig=.;
   end;
   if y2kpsig=0 then do;
      y2lkpsig=0;
      y2rkpsig=0;
   end;

   if zaajkmd=1                            then y2kp12mo=1; else
   if zaajk12 in (0,8) or zaajkmd in (0,8) then y2kp12mo=0; else
                                                y2kp12mo=.;
   if zaajlrb1 in (1,3) then y2rkp12m=1; else y2rkp12m=0;
   if zaajlrb1 in (2,3) then y2lkp12m=1; else y2lkp12m=0;
   if y2kp12mo=. then do;
      y2rkp12m=.;
      y2lkp12m=.;
   end;

   /*** 30-DAY KNEE PAIN ***/
   if zaajkms=1                                          then y2kp30da=1;
else
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  if zaajkms in (0,8) or zaajk30 in (0,8) or zaajk12 in (0,8) then y2kp30da=0;
else
                                                                    y2kp30da=.;
/*****Removed this because 30-day variables cannot be calculated if asked
together;
  if y2kp30da in (.,0) then do;
     y2lkp30d=y2kp30da; y2rkp30d=y2kp30da;
  end; else
  if y2kp30da=1 then do;
     if zaajlrb2=1 then do;
        y2lkp30d=0; y2rkp30d=1;
     end; else
     if zaajlrb2=2 then do;
        y2lkp30d=1; y2rkp30d=0;
     end; else
     if zaajlrb2=3 then do;
        y2lkp30d=1; y2rkp30d=1;
     end; else do;
        y2lkp30d=.; y2rkp30d=.;
     end;
  end;
****/

 *** Count # of missings in activity pain scores before setting to 0 ***;
 nmiss=nmiss(zaajkfs,zaajkst,zaajkbd,zaajkup,zaajkch,zaajkin);

  if zaajkfs in (2,3,4) or
     zaajkst in (2,3,4) or
     zaajkbd in (2,3,4) or
     zaajkup in (2,3,4) or
     zaajkch in (2,3,4) or
     zaajkin in (2,3,4)
     then y2kpact=1; else y2kpact=0;
  if (zaajk30 not in (0,8) and zaajk12 not in (0,8) and nmiss>2) then y2kpact=.;
  if zaajk30=0 or zaajk12=0 then do;
     y2kpact=0; y2rkpact=0; y2lkpact=0; end; else
  if zaajlrb2=1 then do;
     y2rkpact=y2kpact; y2lkpact=0; end; else
  if zaajlrb2=2 then do;
     y2lkpact=y2kpact; y2rkpact=0; end; else
  if zaajlrb2=3 then do;
     y2rkpact=y2kpact; y2lkpact=y2kpact; end; else
  if zaajlrb2=8 and zaajk30 not in (0,8) and zaajk12 not in (0,8) then do;
     y2rkpact=.; y2lkpact=.; end;

 *** Change missing and don't knows to 0 per M.Nevitt ***;
  ** (Unless the whole knee pain data is missing) **;
  if not (zaajk12<=.z or zaajk12=7) then do;
    if zaajkfs not in(0,1,2,3,4) then zaajkfs=0;
    if zaajkst not in(0,1,2,3,4) then zaajkst=0;
    if zaajkbd not in(0,1,2,3,4) then zaajkbd=0;
    if zaajkup not in(0,1,2,3,4) then zaajkup=0;
    if zaajkch not in(0,1,2,3,4) then zaajkch=0;
    if zaajkin not in(0,1,2,3,4) then zaajkin=0;
  end;

  *** Create summary scores for activities ***;
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  y2womac=sum(zaajkfs,zaajkst,zaajkbd,zaajkup,zaajkch,zaajkin);

  if zaajk30 in (0,8) or zaajk12 in (0,8) then y2womac=0; else
  if (zaajk30 not  in (0,8) and zaajk12 not in (0,8) and nmiss>2) then
y2womac=.; else
  if nmiss in (1,2) then y2womac=(y2womac/(6-nmiss))*6;

  if zaajlrb2=1 then do;
     y2rwomac=y2womac; y2lwomac=0; end; else
  if zaajlrb2=2 then do;
     y2rwomac=0; y2lwomac=y2womac; end; else
  if zaajlrb2=3 then do;
     y2rwomac=y2womac; y2lwomac=y2womac; end; else
  if zaajlrb2=8 then do;
     y2rwomac=0; y2lwomac=0; end;
  if y2lkpact=0 and y2lwomac=. then y2lwomac=0;
  if y2rkpact=0 and y2rwomac=. then y2rwomac=0;
run;

data y2knpain(keep=habcid
                        y2kpsig y2rkpsig y2lkpsig y2kp12mo y2rkp12m
                        y2lkp12m y2kpact y2rkpact y2lkpact
                        y2kp30da y2lkp30d y2rkp30d
                        y2rwomac y2lwomac y2rplik y2lplik);
  set pain(in=inp) home(in=inh);
  by habcid;
  y2lwomac=ceil(y2lwomac);
  y2rwomac=ceil(y2rwomac);

  if inh then do;
     Y2LPLIK=y2lwomac; y2lwomac=.;
     Y2RPLIK=y2rwomac; y2rwomac=.;
  end;

  label  y2kpsig = 'Knee pain case - either knee'
        y2rkpsig = 'Right knee pain case'
        y2lkpsig = 'Left knee pain case'
        y2kp12mo = 'Knee pain (either) most days past 12 mo'
        y2rkp12m = 'Right knee pain most days past 12 mo'
        y2lkp12m = 'Left knee pain most days past 12 mo'
        y2kp30da = 'Knee pain (either) most days in past 30'
        y2rkp30d = 'Right knee pain most days in past 30'
        y2lkp30d = 'Left knee pain most days in past 30'
        y2kpact  = 'Knee pain with activity - either knee'
        y2rkpact = 'Right knee pain with activity'
        y2lkpact = 'Left knee pain with activity'
        y2lwomac = 'L knee activity pain, Likert (clinic)'
        y2rwomac = 'R knee activity pain, Likert (clinic)'
        y2lplik  = 'L knee activity pain, Likert (home)'
        y2rplik  = 'R knee activity pain, Likert (home)';
  format y2kpsig y2rkpsig y2lkpsig y2kp12mo y2rkp12m y2lkp12m
         y2kp30da y2lkp30d y2rkp30d
         y2kpact y2rkpact y2lkpact yndk.;
run;
data calc.y2knpain;
  merge y2knpain current.ph(keep=habcid);
  by habcid;
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run;

/*************************
data check;
  set calc.y2knpain;
  by habcid;
  if not(first.habcid and last.habcid);
run;
proc print data=check;
  title4 'More than one record for a participant?';
run;
proc freq data=calc.y2knpain;
  tables y2kpsig y2rkpsig y2lkpsig y2kp12mo y2rkp12m y2lkp12m
         y2kpact y2rkpact y2lkpact y2lwomac y2rwomac / missing;
  title4 'Frequencies of year 2 calculated variables';
run;

proc print data=pain(where=(y2kpsig<0 or y2rkpsig<0 or y2lkpsig<0));
  var habcid y2kpsig y2rkpsig y2lkpsig b4ajrk30 b4ajlk30;
  title4 'Check missings - overall, clinic visit';
run;
proc print data=pain(where=(y2rkpsig<0));
  var habcid y2rkpsig b4ajrk12 b4ajrk30 b4ajrkms b4ajrkfs b4ajrkst b4ajrkbd
b4ajrkup b4ajrkch b4ajrkin;
  title4 'Check missings - right knee, clinic visit';
run;
proc print data=pain(where=(y2lkpsig<0));
  var habcid y2lkpsig b4ajlk12 b4ajlk30 b4ajlkms b4ajlkfs b4ajlkst b4ajlkbd
b4ajlkup b4ajlkch b4ajlkn;
  title4 'Check missings - left knee, clinic visit';
run;
proc print data=home(where=(y2kpsig<0 or y2rkpsig<0 or y2lkpsig<0));
  var habcid y2kpsig y2rkpsig y2lkpsig zaajk12 zaajkmd zaajlrb1 zaajk30 zaajkms
                                zaajkfs zaajkst zaajkbd zaajkup zaajkch zaajkin;
  title4 'Check missings - overall, home visit';
run;

proc print data=pain(where=(y2kpact<0 or y2rkpact<0 or y2lkpact<0));
  var habcid y2kpact y2rkpact y2lkpact b4ajrk30 b4ajrk12 nmissr b4ajlk30
b4ajlk12 nmissl;
  title4 'Check missings - overall, clinic visit';
run;
proc print data=home(where=(y2kpact<0 or y2rkpact<0 or y2lkpact<0));
  var habcid y2kpact y2rkpact y2lkpact zaajk30 zaajk12 zaajlrb2 nmiss
                                zaajkfs zaajkst zaajkbd zaajkup zaajkch zaajkin;
  title4 'Check missings - overall, home visit';
run;

proc print data=pain(where=((y2lkpact>=0 and y2lwomac<0) or (y2rkpact>=0 and
y2rwomac<0)));
  var habcid y2lkpact y2lwomac nmissl y2rkpact y2rwomac nmissr;
  title4 'Activity not missing, womac missing - clinic visits';
run;
proc print data=home(where=((y2lkpact>=0 and y2lwomac<0) or (y2rkpact>=0 and
y2rwomac<0)));
  var habcid y2lkpact y2lwomac nmiss y2rkpact y2rwomac;
  title4 'Activity not missing, womac missing - home visits';
```

```
run;
**************************/

/*****************************************************
proc freq data=pain;
  tables
 y2kpsig*y2rkpsig*y2lkpsig

y2rkpsig*b4ajrkmd*b4ajrkms*b4ajrkfs*b4ajrkst*b4ajrkbd*b4ajrkup*b4ajrkch*b4ajrkin
 y2lkpsig*b4ajlkmd*b4ajlkms*b4ajlkfs*b4ajlkst*b4ajlkbd*b4ajlkup*b4ajlkch*b4ajlkn
 y2kp12mo*b4ajrkmd*b4ajlkmd
 y2rkp12m*b4ajrkmd
 y2lkp12m*b4ajlkmd
 y2kpact*y2rkpact*y2lkpact
 y2rkpact*b4ajrkfs*b4ajrkst*b4ajrkbd*b4ajrkup*b4ajrkch*b4ajrkin*nmissr
 y2lkpact*b4ajlkfs*b4ajlkst*b4ajlkbd*b4ajlkup*b4ajlkch*b4ajlkn*nmissl
 y2lwomac*nmissl
 y2rwomac*nmissr
 / missing list;
  format y2kpsig y2rkpsig y2lkpsig
 y2rkpsig b4ajrkmd b4ajrkms b4ajrkfs b4ajrkst b4ajrkbd b4ajrkup b4ajrkch
b4ajrkin
 y2lkpsig b4ajlkmd b4ajlkms b4ajlkfs b4ajlkst b4ajlkbd b4ajlkup b4ajlkch b4ajlkn
 y2kp12mo b4ajrkmd b4ajlkmd
 y2rkp12m b4ajrkmd
 y2lkp12m b4ajlkmd
 y2kpact y2rkpact y2lkpact
 y2rkpact b4ajrkfs b4ajrkst b4ajrkbd b4ajrkup b4ajrkch b4ajrkin nmissr
 y2lkpact b4ajlkfs b4ajlkst b4ajlkbd b4ajlkup b4ajlkch b4ajlkn nmissl
 y2lwomac b4ajlkfs b4ajlkst b4ajlkbd b4ajlkup b4ajlkch b4ajlkn
 y2rwomac b4ajrkfs b4ajrkst b4ajrkbd b4ajrkup b4ajrkch b4ajrkin;
  title5 'With their component variables';
  title6 '(Clinic visits)';
run;
proc freq data=Home;
  tables
 y2kpsig*zaajkmd*zaajkms*zaajkfs*zaajkst*zaajkbd*zaajkup*zaajkch*zaajkin
 y2kpsig*y2rkpsig*y2lkpsig*zaajlrb1
 y2kp12mo*y2rkp12m*y2lkp12m*zaajkmd*zaajlrb1
 y2kpact*zaajkfs*zaajkst*zaajkbd*zaajkup*zaajkch*zaajkin*nmiss
 y2kpact*y2rkpact*y2lkpact*zaajlrb2*nmiss
 y2lwomac*y2rwomac*zaajlrb2*nmiss
 / missing list;
  format y2kpsig zaajkmd zaajkms zaajkfs zaajkst zaajkbd zaajkup zaajkch zaajkin
 y2kpsig y2rkpsig y2lkpsig zaajlrb1
 y2kp12mo y2rkp12m y2lkp12m zaajkmd zaajlrb1
 y2kpact zaajkfs zaajkst zaajkbd zaajkup zaajkch zaajkin nmiss
 y2kpact y2rkpact y2lkpact zaajlrb2 nmiss
 y2lwomac y2rwomac zaajlrb2 zaajkfs zaajkst zaajkbd zaajkup zaajkch zaajkin
nmiss;
  title5 'With their component variables';
  title6 '(Home visits)';
run;
*****************************************************/
```

Appendix V
Long Distance Corridor Walk Calculated Variables

Investigator Name:Eleanor Simonsick

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
EXCLUDE2	LDCW exclusion code	Variable to capture who was excluded from all walks and why. Note: the first exclusion met is the one that is coded in EXCLUDE2. This year there were no participants excluded solely because no ECG was done, so EXCLUDE2=6 was omitted	If VTYPE GT 0 then EXCLUDE2=9; If VTYPE=0 then DO; EXCLUDE2=0; If EXCLUDE2=0 and B3MARQ=1 then EXCLUDE2=1; If EXCLUDE2=0 and B3PULSE2=1 then EXCLUDE2=5; If EXCLUDE2=0 and (B3SYSYN=1 or B3SYDIYN=1) then EXCLUDE2=2; If EXCLUDE2=0 and (B3WKAID2=1 or or B3WKAID2 or B120M=0) then EXCLUDE2=8; If EXCLUDE2=0 and (B3HA=1 or B3ANG=1 or B3HS=1) then EXCLUDE2=3; If EXCLUDE2=0 and (B3CP=1 or B3SB=1 or B3FA=1 or B3ANGI=1) then EXCLUDE2=4; If EXCLUDE2=0 and B1LD=0 and B3STTST<0 then EXCLUDE2=7;	A few participants who met exclusion criteria but were nonetheless tested were given a code 0 for EXCLUDE2 (affects 13 ppts)	0=not excluded 1=ECG abnormality 2=elevated standing bp 3=cardiac surgery 4=worsening cardiac symptoms 5=elevated heart rate, excluded 400m only 7=no data, reason unknown 8=mobility related exclusion 9=No clinic visit

Long Distance Corridor Walk Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
HOWFARY2 (analogous to WHENSTOP in Year 1)	LDCW completion status	Variable to capture who stopped when	If EXCLUDE2>0 then HOWFARY2=0; If EXCLUDE2=0 then DO: If B3STPTST=1 and (B32SUM > 80) then HOWFARY2=3; Else if B3STPTST=2 and (B34LAP<0) then HOWFARY2=3; Else if B3STPTST=1 then HOWFARY2=2; Ekse uf (BESTPTST=.A or B3STPTST=.M) and B32PLS=1 then HOWFARY2=3; Else if (0 ≤ B34LAP <10) or B3STPTST=2 then HOWFARY2=4; Else if B34LAP=10 then HOWFARY2=5;		0=excluded 2=2-min walk not completed 3=2-min walk completed, 400M not attempted 4=400M walk not completed 5=completed 400M walk
B32SUM (analogous to P32SUMI in Year 1, but no imputation necessary)	2 minute walk distance	2 minute walk total distance (40xlaps + meters) whether completed or not	B32SUM=(40*B32LAP) + B32MTR; If B32LAP ≥ 0 AND B32MTR<0 THEN B32SUM=40*B32LAP		meters
B34SUM	400M walk distance	400-meter walk total distance (whether complete or not)	B34SUM=(40*B34LAP) + B34MTR; If B34LAP ≥ 0 AND B34MTR<0 THEN B34SUM=40*B34LAP		meters
Y2DID2MW (analogous to DID2MINW in Year 1)	completed 2 minute walk yes/no	Dichotomous variable for completing 2 min walk	If HOWFARY2 ≥ 3 then Y2DID2MW=1; ELSE Y2DID2MW=0	If HOWFARY2 is missing, then Y2DID2MW is missing	0=No 1=Yes
Y2V2MINM (analogous to V2MINMTR in Year 1)	meters walked in 2 min - complete only	Number of meters walked for those who completed the 2 min walk only	If Y2DID2MW=1 then Y2V2MINM=B32SUM;	If Y2DID2MW=0 then Y2V2MINM=.	meters
Y2DID400 (analogous to DID400MW in Year 1)	completed 400m walk yes/no	Dichotomous variable for completing 400 m walk	If HOWFARY2=5 then Y2DID400=1; ELSE Y2DID400=0	If HOWFARY2<5, then Y2DID400 = 0	0=No 1=Yes

Long Distance Corridor Walk Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2400MSD (analogous to MTR400SD in Year 1)	walking speed over 400m-completed only	Walking speed over 400 meters for only those who completed 400 meters	If HOWFARY2=5 then Y2400MSD=ROUND(400/P34TIMEI, .01); ELSE Y2400MSD=.	If HOWFARY2<5, then Y2400MSD is missing, uses imputed version of distance	m/sec
Y2V400MT	time to walk 400m - complete only	Time to walk 400 m for only those who completed the 400 meter walk	if HOWFARY2=5 then Y2V400MT=B34TIME; ELSE BY2V400MT=.	If WHENSTOP<5, then V400TIME is missing, uses imputed version of time	sec

```
*This program creates the summary variables for the LDCW in Year 2.  To the
extent possible all 3,075
participants will have a code for each status variable - EXCLUDE2, HOWFARY2,
Y2DID2MW, Y2DID400;

*create dataset similar to Eleanor's Y1Y4ldcw;
data temp (keep=habcid vtype);
      set habc.visits;
      where visit=2;
run;
proc sort data=temp;
      by habcid;
run;

data b3;
      set habc2.b3 (keep=habcid b3marq b3hrt b3pulse2
                        b3sysb2 b3sysyn b3diab2 b3sydiyn b3wkaid2 b3ha b3ang
b3hs b3cp b3sb b3fa
                                b3angi b3b2pl b3pls2 b32lap b32mtr b32bpm
b32pls
                                b34lap b34mtr b34time b34bpm b34sys b34dia
b34hr b3stptst);
run;
data temp4;
      merge temp b3 habc2.b1(keep=habcid b120M b1ld);
      by habcid;
run;

data temptemp(keep=habcid b320stp1 b320tim1 b320stp2 b320tim2 b3wlkaid);
      set habc2.b3;
run;

data temp5;
      merge temp4 temptemp;
      by habcid;
run;

proc contents data=temp5;
run;
*DETERMINATION OF LDCW EXCLUSION STATUS IN Y2 - EXCLUDE2.  THIS IS ANALOGOUS TO
EXCLUDE1 USED
IN Y1 WITH ADDITIONAL CODES ADDED TO ACCOUNT FOR ADDITIONAL EXCLUSION CRITERIA -
NEED FOR WALKING
AID OR INABILITY TO COMPLETE THE 20M WALKS - Y2 CLINIC VISIT STATUS.
0=NOT EXCLUDED
1=YES, Y1 ECG ABNORMALITY
2=YES, ELEVATED BP
3=YES, RECENT CARDIAC EVENT OR SURGERY
4=YES, INCREASED CARDIAC SYMPTOMS
5= YES, ELEVATED HR
7=REFUSED OR NO TEST, REASON UNKNOWN
8=YES,MOBILITY-RELATED - WALKING AID REQUIRED OR UNABLE TO COMPLETE 20M WALKS
9=NO CLINIC VISIT;
data calc.y2ldcw (keep=habcid y2did2mw y2did400 exclude2 b32sum b34sum y2v2minm
y2v400mt howfary2 y2400msd);
set temp5;
IF vtype GT 0 THEN EXCLUDE2=9;
```

```
IF vtype=0 THEN DO;
EXCLUDE2=0;
IF EXCLUDE2=0 AND B3MARQ=1 THEN EXCLUDE2=1;
IF EXCLUDE2=0 AND B3PULSE2=1 THEN EXCLUDE2=5;
IF EXCLUDE2=0 AND (B3SYSYN=1 OR B3SYDIYN=1) THEN EXCLUDE2=2;
IF EXCLUDE2=0 AND (B3WLKAID=1 OR B3WKAID2=1 or B120M=0) THEN EXCLUDE2=8;
IF EXCLUDE2=0 AND (B3HA=1 OR B3ANG=1 OR B3HS=1) THEN EXCLUDE2=3;
IF EXCLUDE2=0 AND (B3CP=1 OR B3SB=1 OR B3FA=1 OR B3ANGI=1) THEN EXCLUDE2=4;
IF EXCLUDE2=0 AND B1LD=0 AND B3STPTST < 0 THEN EXCLUDE2=7;
END;

IF EXCLUDE2 > 0  and EXCLUDE2 NE 5 AND B32LAP > 0 THEN EXCLUDE2=0; *IDENTIFIES
THOSE WHO MET EXCLUSION CRITERIA BUT WERE TESTED;

*DETERMINATION OF COMPLETION STATUS
0=EXCLUDED
2=2-MINUTE WALK NOT COMPLETED
3=2-MINUTE WALK COMPLETED, 400M NOT ATTEMPTED
4=400M NOT COMPLETED
5=COMPLETED 400M WALK;

B32SUM=(40*B32LAP) + B32MTR; *DISTANCE WALKED DURING 2 MINUTE WALK;
If b32lap ge 0 and b32mtr<0 then b32sum=40*b32lap;

*recodes of possible miscodes - all have now been fixed in data (not all
actually stopped 2min walk);
*if habcid=1002 or habcid=1816 or habcid=2554 or habcid=5963 or habcid=6193 then
b3stptst=1;

IF EXCLUDE2 > 0 THEN HOWFARY2=0;
IF EXCLUDE2=0 THEN DO;
IF B3STPTST=1 AND (B32SUM>80) THEN HOWFARY2=3;
else IF B3STPTST=2 AND B34LAP LT 0 THEN HOWFARY2=3;
else IF B3STPTST=1 THEN HOWFARY2=2;
else IF (B3STPTST=.A OR B3STPTST=.M) AND B32PLS=1 THEN HOWFARY2=3;
ELSE IF (0 LE B34LAP LT 10) OR B3STPTST=2 THEN HOWFARY2=4;
ELSE IF B34LAP=10 THEN HOWFARY2=5;
else IF B3STPTST=.A AND B34LAP=.M AND B32SUM > 0 AND B34TIME > 0 AND B32PLS=0
THEN HOWFARY2=5;
else IF B3STPTST=.A AND B34LAP=.M AND B32SUM > 0 AND B34TIME=.A AND B32PLS=0
THEN HOWFARY2=3;
END;
*IT IS NOT CLEAR WHEN B3STPTST=1 WHETHER THE 2-MINUTE WAS STOPPED EARLY OR IT
WAS
COMPLETED AND THE 400M WALK WAS NOT ATTEMPTED DUE TO PROBLEMS EXPERIENCED DURING
THE
2 MINUTE WALK.  The following IDs - 1002, 1816, 2554, 5963, 6193 appeared to
have stopped the 2-minute
walk, but B3STPTST was coded as 2 (or A), not 1 - these have been recoded above;
*Added B34SUM, for parallelism with year 1;
IF HOWFARY2>3 THEN DO;
B34SUM=(40*B34LAP) + B34MTR;
IF B34LAP GE 0 AND B34MTR<0 THEN B34SUM=40*B34LAP;end; *DISTANCE WALKED DURING
400m walk;

IF HOWFARY2 GE 3 THEN Y2DID2MW=1; ELSE Y2DID2MW=0;
IF Y2DID2MW=1 THEN Y2V2MINM=B32SUM;
```

```
* corrected recodes for ones that were corrected in the data;
/*if habcid=1366 or habcid=1415 then y2v2minm=.;
if habcid=1561 or habcid=2117 or habcid=5626 then y2v2minm=.;*/
*The following IDs completed the 400 meter walk, but have no distance recorded
for
the 2-minute component, usually because either the laps or additional meters
were
left blank - 1722 1865 1896 2173 2267 5841 5985 5986 6038.  IDs 1366 and 1415
had 0 laps
recorded which gives them impossibly short distances and have been set to
missing for now (this is now fixed EK).
These IDs have improbably or impossibly long distances for the 2-min walk -
1561, 2117, 5626
and have been set to missing for now;
IF HOWFARY2=5 THEN Y2DID400=1; ELSE Y2DID400=0;
IF HOWFARY2=5 THEN Y2V400MT=B34TIME;
*until the miscoding errors for time to walk 400 meters are corrected, the
following
line of code should be included;
IF B34TIME GT 660 THEN Y2V400MT=.;

*creating analog to MTR400SD in case Eleanor simply overlooked it;
if HOWFARY2=5 then Y2400MSD=ROUND(400/b34time,.01); else Y2400MSD=.;

*VARIBLE NAME COMPARISONS
   Y1          Y2
EXCLUDE1    EXCLUDE2
WHENSTOP    HOWFARY2
DID2MINW    Y2DID2MW
DID400MW    Y2DID400
P32SUMI           B32SUM
V2MINMTR    Y2V2MINM
V400TIME    Y2V400MT;

*All other summary variables derive from these;
      LABEL EXCLUDE2 = 'LDCW exclusion code'
              B32SUM = '2 minute walk distance'
              B34SUM = '400m walk distance'
              HOWFARY2 = 'LDCW completion status'
              Y2DID2MW = 'completed 2 minute walk yes/no'
              Y2DID400 = 'completed 400m walk yes/no'
              Y2V2MINM = 'meters walked in 2 min - complete only'
              Y2V400MT = 'time to walk 400m - complete only'
              y2400MSD = 'walking speed over 400m - completed only';
    format Y2DID2MW Y2DID400 yndk. EXCLUDE2 exclud4x. HOWFARY2 stop.;

run;

proc contents data=calc.y2ldcw;
run;
```

Appendix VI
Performance Measure Calculated Variables

Investigator Name:Eleanor Simonsick

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
ABLE5CS	Did 5 chair stands	Indicator variable for able to do 5 chair stands. The scoring algorithm sets ABLE5CS to 0 if repeated stands were completed, but single chair stand coded as "rises using arms"	If single chair stand missing or refused and repeated stands are also missing, or if no suitable chair was available, or participant refused the single chair stand, then ABLE5CS is missing. If single chair is not attempted/unable, attempted and unable, or rises using arms, then ABLE5CS=0. If complete single stand, but not attempted/unable, refused, or unable to complete 5 stands, then ABLE5CS=0. If able to complete both single stand and 5 repeated stands, then ABLE5CS=1.		0=No 1=Yes
CHR5PACE	Chair stands per second	Chair stands per second	CHR5PACE=5 divided by the time to do 5 stands (in seconds) rounded to 1 decimal	If ABLE5CS=0 then CHR5PACE=0	sec^{-1}

CAT5CS	EPESE score for chair stands		Round time for 5 stands to nearest decimal
			if ABLE5CS=0 then CAT5CS=0;
			if ABLE5CS=1 then:
			if time ≥16.7 then CAT5CS=1;
			if 13.7 ≤ time ≤ 16.6 then CAT5CS=2;
			if 11.2 ≤ time ≤ 13.6 then CAT5CS=3;
			if time ≤ 11.1 then CAT5CS=4
				If ABLE5CS=1 and time <0 then CAT5CS=.	Scale from 0 (worst performance) to 4 (best performance)

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
SBSCORE	EPESE score for standing balance	EPESE categorical score for summary of standing balance results. The scoring algorithm reflects the EPESE administration procedure in which those who could not hold the semi-tandem stand for 10 seconds should not have moved on to the full tandem stand (even if they did have data for that test)	If refused or attempted/unable to do semi-tandem stand, or unable to hold for at least 1 second, then STSCORE=0. If holds for 1 to <10 seconds, then STSCORE=1. If at least 10 seconds, then STSCORE=2. Better of two tandem-stand trials is used. If refused or attempted/unable to do tandem stand, or unable to hold for at least 3 second then FTSCORE=0. If holds for 3 to <10 seconds, then FTSCORE=1. If at least 10 seconds then FTSCORE=2. If STSCORE in (0,1) then FTSCORE=0. SBSCORE=STSCORE + FTSCORE	**If semi-tandem marked as holds for less than 30 seconds, but time is missing, assume held less than 10 seconds (STSCORE=1).** **If STSCORE is missing and tandem stand held for at least 10 seconds, then assume semi-tandem held for 30 (STSCORE=2)** If semi-tandem is refused or unable then STSCORE=0 If tandem is refused or unable then FTSCORE=0	sec

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
FSBTIME	Full standing balance test time 0-90	Total time of all stands. Those who could not hold the full tandem stand for 30 seconds were not supposed to be administered the one-leg stand so they were assigned 0 seconds for one-leg stand.	If STSCORE=0 then STTIME=0 If xxSTS*=3 then STTIME=30 If xxSTS*=2 then STTIME=xxSTSTM* If STSCORE=0 then FTTIME=0 If xxTS1*=3 or xxTS2=3, then FTTIME=30, otherwise FTTIME =max(xxTSTM , xxTS2TM). Otherwise if FTSCORE=0 then FTTIME=0. **If semi-tandem scored as "Holds position between 1 and 29 seconds" and semi-tandem time is missing, use tandem time for semi-tandem time.** If xxTR1=3 or xxTR2=3 then OLTIME=30. Otherwise, OLTIME=max(xxTR1TM*, xxTR2TM*). Otherwise OLTIME=0. If 0 < FTTIME < 30.00 then OLTIME=0. if STTIME=**0** or FTTIME=**0** then OLTIME=**0**. Round each balance time to two decimals FSBTIME=STTIME + FTTIME + OLTIME	If one-leg stand is refused or unable then OLTIME=0	sec

*Core home visit and proxy visit variables have different prefixes. Variables were all given standardized names first and then the calculated variables were created

Performance Measure Calculated Variables

Note all performances except for the standing balance measures were converted to pace (meters/sec or chair stands/sec)to allow those unable to do a test to be coded 0. It was difficult to determine whether the 7:Not attempted/refused were not administered a test or if they refused or did not attempt a test because of a physical problem.

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
CSRATIO	Chair stands performance ratio using a modification of the MacArthur approach**	A summary scale of chair stand performance. 1 chair stand per second was used for the denominator	CSRATIO=round(CHR5PACE/1, .01); if CSRATIO > 1 then CSRATIO=1	Chair stand performances was converted to pace - chair stands/sec - to allow those unable to do a test to be coded 0;	unitless
FSBRATIO	Standing balance performance ratio using a modification of the MacArthur approach**	A summary scale of standing balance performance. 90 seconds (total time for all three stands) was used for the denominator	FSBRATIO= FSBTIME/90 rounded to 2 decimals	If FSBTIME is missing, then FSBRATIO is missing	unitless

**Seeman et al. J Gerontol Med Sci 1994(49)M97-M108). With the MacArthur data, the 99th percentile was used as the denominator and scores above the 99th percentile were set to equal the 99th percentile. Here, the maximum attainable performance within an older cohort as used as the denominator.

```
/*****************************************************************************
************************
* Program Name:  Perform_Y2.sas
* Saved as:      \\Fu-hsing-c\habc\habc_sas\Calculated Variables\Programs\Year
4\Perform_Y2.sas
* Study:         HABC
* Purpose:       Creates calculated variables for Year 2 for
*                  Standing Balance, Balance Walks, and Chair Stand
* Input:         Y2ClnVis, Y2CoreHV, and Y2Proxy
* Output:        Perfm_Y2
* Programmer:    Ase Sewall (in coordination with Emily Kenyon) Revised for Year
2 by Emily Kenyon
* Date:          July 10, 2009
* Comments:      Consolidate and reconciled differences in various sets of code
*                  (Consultation from Eleanor Simonsick)
*****************************************************************************
************************/;


*****--------- Only home visit has performance measures for this year
****************************;
%let Y=Y2;
%let pre=z2;
data Y2corehv;
  set current.Y2corehv (keep=habcid z2scs z2rcs z2sec
                            z2sts z2ststm z2ts2 z2ts1 z2ts2tm z2tstm
                            z2tr1 z2tr2 z2tr1tm z2tr2tm
                            z24mwtm1 z24mw1 z24mwtm2 z24mw);
run;

data Y2_corehv;
  set Y2corehv (in=b rename=(z2scs=scs z2rcs=rcs
    z2sts=sts z2ststm=ststm z2ts1=ts1 z2tstm=tstm z2ts2=ts2 z2ts2tm=ts2tm
    z2tr1=tr1 z2tr1tm=tr1tm z2tr2=tr2 z2tr2tm=tr2tm z2sec=sec));
  by habcid;
run;



*****----------------------- Create Performance Variables ----------------------
-------*****;

data visit;
  set Y2_corehv;
  Source="H";
run;

%include "&_progpath\Calculated Variables\Programs\perfm_macros.sas";
```

```
%macro perfm;
data Perf_&Y;
  set visit;


  ***** Standing Balance *****;

    *--- (1) Semi-tandem score;
    if STS in (7,9) then STSCORE=0; *Refused attempted/unable;
      else if STS<0 and STSTM<0 then STSCORE=.;
      else if (STS<0 and 0<STSTM < 1) or STS=1 then STSCORE=0; *Holds position
for less than one second;
        else if (STS=2 and STSTM<0 and (TS1=3 or TS2=3 or TSTM>0 or TS2TM>0))
then do;*Assumes ST time at least as good as FT;
            if TS1=3 or TS2=3 then STSTM=30;
            else STSTM=max(TSTM,TS2TM);
        end;
    if (STS=2 or STS<0) and 0<STSTM<10 then STSCORE=1; *Holds position for less
than 10 seconds;
      else if STS=2 and STSTM<0 then STSCORE=1; *If less than 30 sec and time
missing, assume less than 10 sec;
      else if STS=3 or ((STS=2 or STS<0)and STSTM ge 10) then STSCORE=2; *Holds
position for at least 10 seconds;

    *--- (2) Full-tandem score (1st attempt);
    if TS1 in (7,9) then FT1=0; *Refused attempted/unable;
      else if TS1<0 and TSTM<0 then FT1=.;
      else if (TS1<0 and 0<TSTM<1) or TS1=1 then FT1=0; *Holds position for less
than one second;
      else if (TS1=2 or TS1<0) and TSTM<10 then FT1=1; *Holds position for less
than 10 seconds (assumes missing time means less than 10 sec);
      else if TS1=3 or ((TS1=2 or TS1<0) and TSTM ge 10) then FT1=2; *Holds
position for at least 10 seconds;
        if (ts1=1 or (ts1=2 and 0 le tstm lt 3)) then FT1=0;*Full-tandem < 3
seconds;
    *--- (3) Full-tandem score (2nd attempt);
    if TS2 in (7,9)then FT2=0; *Refused attempted/unable;
      else if TS2<0 and TS2TM<0 then FT2=.;
      else if (TS2<0 and 0<TS2TM<1) or TS2=1 then FT2=0; *Holds position for
less than one second;
     else if (TS2=2 or TS2<0) and TS2TM<10 then FT2=1; *Holds position for less
than 10 seconds (assumes missing time means less than 10 sec);
      else if TS2=3 or ((TS2=2 or TS2<0) and TS2TM ge 10) then FT2=2; *Holds
position for at least 10 seconds;
      if (ts2=1 or (ts2=2 and 0 le ts2tm lt 3)) then FT2=0;
  FTSCORE=max(FT1,FT2); *Full-tandem score is better of two tries;

    *--- (4)  Combined standing balance scores;
    if STSCORE in (0,1) then FTSCORE=0; *Should not go on to full-tandem if
unable to hold semi-tandem for 10 seconds;
    if STSCORE=. and FTSCORE>0 then STSCORE=2 ;*If semi-tandem test missing and
full-tandem exists, then assume completed at least 10 seconds on semi-tandem

    *--- (5)  Final standing balance score;
    label SBSCORE  ="EPESE SCORE FOR STANDING BALANCE";
    SBSCORE=STSCORE+FTSCORE;
```

```
    *--- (6) For debug print only;
    if 0 lt ststm lt 10 then STimelt10="<10";


  ***** Chair stands *****;

    label ABLE5CS  ="DID 5 CHAIR STANDS YES=1";
    IF (SCS=.M AND RCS=.A) OR (SCS=7 AND (RCS=.A OR RCS=.E)) THEN ABLE5CS=.;
      else IF SCS=1 THEN ABLE5CS=0;
      else IF SCS=2 AND (RCS=1 OR RCS=7 or RCS=9) THEN ABLE5CS=0;
      else IF SCS=9 THEN ABLE5CS=0;
      else IF SCS=3 THEN ABLE5CS=.;
      else IF SCS=0 THEN ABLE5CS=0;
      else IF SCS NE 1 AND RCS=2 THEN ABLE5CS=1;
      else IF SCS=7 THEN ABLE5CS=.;
      else IF SCS=2 AND RCS=2 THEN ABLE5CS=1;

    label CAT5CS ="EPESE SCORE FOR CHAIR STANDS";
    RSEC=ROUND(SEC, .1);
    IF ABLE5CS=0 THEN CAT5CS=0;
    else IF ABLE5CS=1 then do;
      IF RSEC GE 16.7 THEN CAT5CS=1;
      IF 13.7 LE RSEC LE 16.6 THEN CAT5CS=2;
      IF 11.2 LE RSEC LE 13.6 THEN CAT5CS=3;
      IF 0<RSEC LE 11.1 THEN CAT5CS=4;
        else if RSEC lt 0 then CAT5CS=.;
    end;

    label CHR5PACE ="CHAIR STANDS PER SECOND";
    CHR5PACE=ROUND(5/SEC, .01);
    IF ABLE5CS=0 THEN CHR5PACE=0;

    label CSRATIO  ="CHAIR STANDS PERFORMANCE RATIO";
    CSRATIO=ROUND(CHR5PACE/1, .01); IF CSRATIO GT 1 THEN CSRATIO=1;

    **Total seconds to examine full standing balance assessment and create a
score
        from 0 to 90 - total time of all stands;

    *--- (1) semi-tandem time;
    IF STSCORE=0 THEN STTIME=0;
    else do;
     IF STS=3 THEN STTIME=30;
     IF STS=2 THEN STTIME=STSTM;
     IF (STS=2 AND STSTM=.M) AND TS1=2 THEN STTIME=TSTM;
     IF (STS=2 AND STSTM=.M) AND (TS1=3 OR TS2=3) THEN STTIME=30;
    end;
    STTIME=ROUND(STTIME, .01);

    *--- (2) full-tandem time;
    if STSCORE in (0,1) then FTTIME=0;
      else IF TS1=3 OR TS2=3 THEN FTTIME=30;
      else IF TS1=2 or TS2=2 THEN FTTIME=MAX(TSTM, TS2TM);
        else if FTSCORE=0 then FTTIME=0;
*New code to try to be more consistent;
      if FTSCORE>0 and STTIME<0 then STTIME=FTTIME;
```

```
    *--- (3) one-leg stand;
    if tr1=3 or tr2=3  then OLTIME=30;
      else OLTIME=MAX(Tr1TM, Tr2TM);
      if FTTIME<0 and OLTIME>0 then FTTIME=OLTIME;
        if OLTIME<0 and (tr1 in (7,9) or (tr1=1 and tr2 in (7,9,1,.M))) then
OLTIME=0;*new;
    if STTIME=0 or FTTIME=0 then OLTIME=0;
    if 0 lt FTTIME lt 30 then OLTIME=0;

    *--- (4) combined time for all three stands;
    label  FSBTIME  ="Standing Balance Test Time (0-90)"
           FSBRATIO ="Standing Balance Time Ratio";
    FSBTIME=STTIME + FTTIME + OLTIME;
    FSBRATIO=round(FSBTIME/90, .01);

%if (&Y=Y1 or &Y=Y4 or &Y=Y6 or &Y=Y10 or &Y=Y11) %then %do;
  ***** Balance walks *****;

    **Balance walk (6 Meter and Narrow);
    /* Code to compute EPESE categorical score for the measured walk. It
      is difficult to determine whether the 7s were not administered a test
      of if they refused/did not attempt a test b/c a physical problem.
      The INYN variable used in Y1 is not avail in other years*/;

    *--- (Usual walk);

    ***DID6MUW (Did  usual walk);
    LABEL DID6MUW  ="DID 6M USUAL WALK YES=1";
      if Source="V" then do;
      IF &pre.UP1>0 or &pre.uptm1 gt .Z then DID&Y.UW=1;
      else IF &pre.UPRU1<=.z THEN DID&Y.UW=.;
      else if &pre.UPRU1=9 THEN DID&Y.UW=0;
      else IF &pre.UPRU1=7 THEN DID&Y.UW=.;
        DID6MUW=DID&Y.UW;
      end;
%if (&Y ne Y1) %then %do;
    if Source="H" then do;
      if (&hpre.4mwtm1 ge 0 and &hpre.4mwtm2 ge 0) then DID&Y.UW=1;
       else if &hpre.4mw1=9 or &hpre.4mw1=1 then DID&Y.UW=0;
    end;
%end;
      %if (&Y=Y2 or &Y=Y3 or &Y=Y4 or &Y=Y5 or &Y=Y6 or &Y=Y8) %then %do;
      if Source="P" then do;
      if (yc4mwtm1 ge 0 and yc4mwtm2 ge 0) then DID&Y.UW=1;
      else if yc4mw1=9 or yc4mw1=1 then DID&Y.UW=0;
    end;
%end;
    ***SIXMWTM (Time for 6m usual walk);

      if Source="V" then do;
      IF &pre.UPTM1 > 0 AND &pre.UPTM2 > 0 THEN &Y.UWTM=MIN(&pre.UPTM1,
&pre.UPTM2);
        else if &pre.uptm1 lt 0 and &pre.uptm2 ge 0 then &Y.UWTM=&pre.uptm2;
        else if &pre.uptm1 ge 0 and &pre.uptm2 lt 0 then &Y.UWTM=&pre.uptm1;
        SIXMWTM=&Y.UWTM;
      label SIXMWTM  ="TIME TO WALK  6M";
      end;
```

```
      %if (&Y ne Y1) %then %do;
    if Source="H" then do;
      if (&hpre.4mwtm1 ge 0 and &hpre.4mwtm2 ge 0) then
&Y.UWTM=min(&hpre.4mwtm1, &hpre.4mwtm2);
      else if &hpre.4mwtm1 lt 0 and &hpre.4mwtm2 ge 0 then &Y.UWTM=&hpre.4mwtm2;
      else if &hpre.4mwtm1 ge 0 and &hpre.4mwtm2 lt 0 then &Y.UWTM=&hpre.4mwtm1;
    end;
      %end;
      %if (&Y=Y2 or &Y=Y3 or &Y=Y4 or &Y=Y5 or &Y=Y6 or &Y=Y8) %then %do;
    else if Source="P" then do;
      if (yc4mwtm1 ge 0 and yc4mwtm2 ge 0) then &Y.UWTM=min(yc4mwtm1, yc4mwtm2);
      else if yc4mwtm1 lt 0 and yc4mwtm2 ge 0 then &Y.UWTM=yc4mwtm2;
      else if yc4mwtm1 ge 0 and yc4mwtm2 lt 0 then &Y.UWTM=yc4mwtm1;
    end;
      %end;
    ***&Y.UWPACE (pace for usual walk);
    label &Y.UWPACE ="WALKING SPEED (M/SEC) OVER 3,4, or 6M";
      if Source="V" then do;
      &Y.UWPACE=ROUND(6/&Y.UWTM, .01);
      IF DID&Y.UW=0 THEN &Y.UWPACE=0;
      end;
      %if (&Y ne Y1) %then %do;
    if Source="H" then do;
      if &hpre.4mw=1 then &Y.UWPACE=round(4/&Y.UWTM, .01);
      if &hpre.4mw=2 then &Y.UWPACE=round(3/&Y.UWTM, .01);
    end;
      %end;
      %if (&Y=Y2 or &Y=Y3 or &Y=Y4 or &Y=Y5 or &Y=Y6 or &Y=Y8) %then %do;
    else if Source="P" then do;
      if yc4mw=1 then &Y.UWPACE=round(4/&Y.UWTM, .01);
      if yc4mw=2 then &Y.UWPACE=round(3/&Y.UWTM, .01);
    end;
      %end;
      ***&Y.UWSCR (Score for usual walk);
    label &Y.UWSCR  ="EPESE SCORE FOR WALKING SPEED";
    IF DID&Y.UW=0 THEN &Y.UWSCR=0;
      else IF 0 LT &Y.UWPACE LE .46 THEN &Y.UWSCR=1;
      else IF .47 LE &Y.UWPACE LE .64 THEN &Y.UWSCR=2;
      else IF .65 LE &Y.UWPACE LE .82 THEN &Y.UWSCR=3;
      else IF &Y.UWPACE GE .83 THEN &Y.UWSCR=4;

    ***&Y.UWRATIO (Ratio usual walk;
    label &Y.UWRATIO ="USUAL WALK PERFORMANCE RATIO";
    &Y.UWRATIO=ROUND(&Y.UWPACE/2, .01);*2 m/sec is considered fastest attainable
pace in this age group;
    IF &Y.UWRATIO GT 1 THEN &Y.UWRATIO=1;

    *--- (20cm narrow walk);

    ***DID6MNW (Did 20cm narrow walk);
    label DID6MNW ="DID 6M NARROW WALK YES=1";
    IF DID&Y.UW=. THEN DID6MNW=.;
    else if DID6MUW=0 THEN DID6MNW=0;

else IF &pre.20TR1=0 AND &pre.20TR2=0 AND &pre.20TR3 < 1 THEN DID6MNW=0;
    IF &pre.20CNA in (0,9) THEN DID6MNW=0;*One version of the form coded not
attempted/unable as 0;
```

```
      else IF DID6MUW=1 AND &pre.20CNA=7 THEN DID6MNW=0;
      else IF &pre.20TR1=1 OR &pre.20TR2=1 OR &pre.20TR3=1 THEN DID6MNW=1;

    ***NWTIME***;
    label NWTIME ="TIME TO WALK A 20CM WIDE 6M COURSE";
    IF (&pre.20TR1=1 AND &pre.20CT1>0) THEN VT1T=1;
      ELSE VT1T=0;
    IF (&pre.20TR2=1 AND &pre.20CT2>0) THEN VT2T=1;
      ELSE VT2T=0;
    IF &pre.20TR3=1 AND &pre.20CT3>0 THEN VT3T=1;
      ELSE VT3T=0;
    IF DID6MNW=1 THEN DO;
    IF VT1T=1 AND VT2T=0 AND VT3T=0 THEN NWTIME=&pre.20CT1;
      else IF VT1T=0 AND VT2T=1 AND VT3T=0 THEN NWTIME=&pre.20CT2;
      else IF VT1T=0 AND VT2T=0 AND VT3T=1 THEN NWTIME=&pre.20CT3;
      else IF VT1T=1 AND VT2T=1 AND VT3T=0 THEN NWTIME=MIN(&pre.20CT1,
&pre.20CT2);
      else IF VT1T=1 AND VT2T=0 AND VT3T=1 THEN NWTIME=MIN(&pre.20CT1,
&pre.20CT3);
      else IF VT1T=0 AND VT2T=1 AND VT3T=1 THEN NWTIME=MIN(&pre.20CT2,
&pre.20CT3);
      else IF VT1T=1 AND VT2T=1 AND VT3T=1 THEN NWTIME=MIN(&pre.20CT1,
&pre.20CT2, &pre.20CT3);
    END;

    ***NWPACE***;
    label NWPACE="WALKING SPEED FOR NARROW WALK 6M";
    NWPACE=ROUND(6/NWTIME, .01);
    IF DID6MNW=0 THEN NWPACE=0;

    ***NWSCORE***;
    label NWSCORE ="EPESE CATEGORY FOR NARROW WALK";
    IF DID6MNW=0 THEN NWSCORE=0;
      else IF 0 LT NWPACE LE .46 THEN NWSCORE=1;
      else IF .47 LE NWPACE LE .64 THEN NWSCORE=2;
      else IF .65 LE NWPACE LE .82 THEN NWSCORE=3;
      else IF NWPACE GE .83 THEN NWSCORE=4;

    ***NWRATIO***;
    label NWRATIO  ="NARROW WALK PERFORMANCE RATIO";
    NWRATIO=ROUND(NWPACE/2, .01);
    IF NWRATIO GT 1 THEN NWRATIO=1;

    *--- (Comparison between 6M Usual walk 20cm Narrow walk);

    if &Y.UWPACE gt 0 and nwpace gt 0 then do;            /* Added by Ase,
changed to ge by Emily */
      ***Pace Difference;
      PACEDIFF=&Y.UWPACE-NWPACE;
      PCPACEDF=ROUND(100*PACEDIFF/&Y.UWPACE, .01);

      ***NWSCOREQ (Categories based on percent difference in pace);
      label NWSCOREQ ="% DIFF BTW NARROW & USUAL WALKS";
      IF PCPACEDF GT 15 THEN NWSCOREQ=1;
        else IF 15 GE PCPACEDF GT 5 THEN NWSCOREQ=2;
        else IF 5 GE PCPACEDF GE -5 THEN NWSCOREQ=3;
        else IF .Z <PCPACEDF LT -5 THEN NWSCOREQ=4;      /* Corrected by Ase */
```

```
        else IF DID6MNW=0 THEN NWSCOREQ=0;
        else IF DID6MNW=. THEN NWSCOREQ=.;
    end;

  ***** Summary Performance Scores *****;

    *--- EPESEPPB;
    label EPESEPPB="EPESE performance battery score 0-12";
    EPESEPPB=&Y.UWSCR + CAT5CS + SBSCORE;


    *---HABCPPB;
    label HABCPPB="Health ABC performance score 0-4";
    HABCPPB=FSBRATIO + CSRATIO + &Y.UWRATIO + NWRATIO;


    *---PPB12CAT;
    *THIS CODE CREATES 12 CATEGORIES OF THE CONTINUOUS HABCPPB SCORE;
    label PPB12CAT="Categorical scoring of HABCPPB 0-12";
    IF HABCPPB GT 3.66 THEN PPB12CAT=12;
    IF 3.33 LT HABCPPB LE 3.66 THEN PPB12CAT=11;
    IF 3.0 LT HABCPPB LE 3.33 THEN PPB12CAT=10;
    IF 2.66 LT HABCPPB LE 3.0 THEN PPB12CAT=9;
    IF 2.33 LT HABCPPB LE 2.66 THEN PPB12CAT=8;
    IF 2.0 LT HABCPPB LE 2.33 THEN PPB12CAT=7;
    IF 1.66 LT HABCPPB LE 2.0 THEN PPB12CAT=6;
    IF 1.33 LT HABCPPB LE 1.66 THEN PPB12CAT=5;
    IF 1.0 LT HABCPPB LE 1.33 THEN PPB12CAT=4;
    IF 0.66 LT HABCPPB LE 1.0 THEN PPB12CAT=3;
    IF 0.33 LT HABCPPB LE 0.66 THEN PPB12CAT=2;
    IF 0.0 LT HABCPPB LE 0.33 THEN PPB12CAT=1;
    IF HABCPPB = 0 THEN PPB12CAT=0;
%end;
format _all_;

run;
*This is all just QC code;
*****-------------------------- Formats ----------------------------------
*****;
** standing balance score formats;
proc format;
  value result
    .M = "M"
    .N = "N"
    .A = "A"
    7 = "7=ref"
    9 = "9=una"
    1 = "1=<1"
    2 = "2=1-<30"
    3 = "3=30+";
  value sec_a
    .M = "M"
    .N = "N"
    .A = "A"
    1-<3 = "< 3"
    3-<10 = "3-<10"
    10-<30 = "10-<30";
```

```
  value sec_b
    .M = "M"
    .N = "N"
    .A = "A"
    0 = "0"
    1-<10 = "<10"
    10-<30 = "10-<30";
  value sec_e
    0 = "0"
    1-<30 = "<30"
    30 = "30";
  value sec_f
    0 = "0"
    1-30 = "1-30"
    30<-60 = "31-60"
    60<-90 = "61-90";
  value ratio
    0.0 = "0.0"
    .01-.33 = ".01-.33"
    .34-.67 = ".34-.67"
    .68-.99 = ".68-.99"
    1.00 = "1.00";
run;
%macro skip;
** chair stand formats;
proc format;
  value sec_c
    1-11.1 = "1-11.1"
    11.2-13.6 = "11.2-13.6"
    13.7-16.6 = "13.7-16.6"
    16.7-35 = "16.7-35"
    35<-high = ">35";
  value sec_d
    1-high = "1+";
  value pace
    0 = "0"
    0<-high = ">0";
run;

** Walking formats;
proc format;
  value walk_sec
    1.0-50.0 = "1.0-50.0";
  value walk_pace
            0 = "0"
    0<-0.46 = "<0.46"
    .47-.64 = "0.47-0.64"
    .65-.82 = "0.65-0.82"
    .83-high= "0.83+";
  value walk_pacex
            0 = "0"
    0<-high = ">0";
  value walk_steps
    1-30 = "1-30";
  value walk_ratio
            0 = "0"
    0<-0.23 = "<0.23"
```

```
    .24-.32 = "0.24-0.32"
    .33-.41 = "0.33-0.41"
    .42-high= "0.42+";
  value pace_diff
    low-<0  = "<0"
          0 = "0"
    0<-<100 = ">0 - <100"
    100     = "100";
  value pcpace_diff
    15<-high = "> 15"
    5<-15 = ">5 to 15"
    -5-5 = ">-5 to 5"
    low-<-5 = "<-5";
  value pace_ratio
    0 = "0"
    0<-<1 = ">0 to <1.0"
    1 = "1.0";
run;

** Performance formats;
proc format;
  value perf_ratio
    0 = "0"
    0<-1 = ">0";
  value HABCPPB
    0 = "0"
    0.00<-0.33 = "> 0.00 to 0.33"
    0.33<-0.66 = "> 0.33 to 0.66"
    0.66<-1.00 = "> 0.66 to 1.00"
    1.00<-1.33 = "> 1.00 to 1.33"
    1.33<-1.66 = "> 1.33 to 1.66"
    1.66<-2.00 = "> 1.66 to 2.00"
    2.00<-2.33 = "> 2.00 to 2.33"
    2.33<-2.66 = "> 2.33 to 2.66"
    2.66<-3.00 = "> 2.66 to 3.00"
    3.00<-3.33 = "> 3.00 to 3.33"
    3.33<-3.66 = "> 3.33 to 3.66"
    3.66<-high = "> 3.66 ";
run;


*****------------------------------- Frequencies and prints --------------------
-------*****;

proc freq data=perf_&Y;
  table sttime*stscore*sts*ststm*ts1*ts2*tstm / list missing nocum nopercent;
  table fttime*ftscore*ts1*ts2*tstm*ts2tm*stscore / list missing nocum
nopercent;
  table oltime*fttime*tr1*tr2*tr1tm*tr2tm / list missing nocum nopercent;
  format sttime fttime oltime ststm tstm ts2tm tr1tm tr2tm sec_b.;
  title2 "Standing balance - Times";
run;
proc freq data=perf_&Y;
  table fsbtime*FSBRATIO*sttime*fttime*oltime  / list missing nocum nopercent;
  format sttime fttime oltime fsbtime sec_f. FSBRATIO ratio.;
  title2 "Standing balance - Summary time";
run;
```

```
/*
proc print data=perf_&Y;
  where 0 < fttime < 30 and
    (tr1=3 or 0 < tr1tm < 30 or tr2=3 or 0 < tr2tm < 30);
  id habcid;
  var source oltime fttime tr1 tr2 tr1tm tr2tm;
  title2 "One-leg stand time - Cases with tandem stand < 30 forcing one-leg
stand to be 0";
run;
*/

proc freq data=perf_&Y;
  table FTSCORE*STSCORE*sts*ststm / list missing;
  format sts result. ststm sec_a.;
  title2 "Standing Balance - Semi-tandem score";
run;
proc freq data=perf_&Y ;
  table FTSCORE*STimelt10*ts1*tstm*ts2*ts2tm / list missing;
  table FTSCORE*STimelt10*FT1*FT2 / missing list;
  format ts1 ts2 result. tstm ts2tm sec_b.;
  title2 "Standing Balance - Full-tandem score";
run;
proc freq data=perf_&Y;
  title2 "Standing Balance - Tandem Score";
  table SBSCORE*STSCORE*FTSCORE / list missing;
run;
proc print data=perf_&Y;
  where FTSCORE=0 and (ts1 in(2,3) or ts2 in(2,3)) and (tstm>3 or ts2tm>3);
  id Habcid;
  var source sts ststm ts1 tstm ts2 ts2tm;
  title2 "Standing Balance - Cases with Full balance set to zero because Semi
balance time < 10 sec";
run;
proc freq data=perf_&Y;
  table ABLE5CS*scs*rcs
        CAT5CS*CHR5PACE*ABLE5CS*rsec / list missing nopercent nocum;
  format scs chair3x. rcs chair4x. CHR5PACE pace. rsec sec_c.;
  title2 "Chair Stands";
run;


*****------------------------ Save Performance File -----------------------
*****;
%if (&Y=Y4 or &Y=Y6 or &Y=Y11) %then %do;
proc freq data=Perf_&Y;
  where source="H";
  table DID6MUW*&hpre.4mwtm1*&hpre.4mw1*&hpre.4mwtm2 / list missing nocum
nopercent;
  format SIXMWTM &pre.UPTM1 &pre.UPTM2 walk_sec. &Y.UWPACE walk_pace. &pre.up1
&pre.up2 walk_steps. &Y.UWRATIO walk_ratio.;
  format &hpre.4mwtm1 &hpre.4mwtm2 walk_sec.;
  title2 "6M Usual walk - Home Visits";
run;

proc freq data=Perf_&Y;
  where  source="P";
  table DID6MUW*yc4mwtm1*yc4mw1*yc4mwtm2 / list missing nocum nopercent;
```

```
  format &Y.UWTM &pre.UPTM1 &pre.UPTM2 walk_sec. &Y.UWPACE walk_pace. &pre.up1
&pre.up2 walk_steps. &Y.UWRATIO walk_ratio.;
  format yc4mwtm1 yc4mwtm2 walk_sec.;
  title2 "6M Usual walk - Proxy";
run;
%end;
%mend skip;
%if (&Y=Y1 or &Y=Y4 or &Y=Y6 or &Y=Y10 or &Y=Y11) %then %do;
data calc.Perfm_&Y (keep = habcid
       DID6MUW SIXMWTM &Y.UWPACE &Y.UWSCR &Y.UWRATIO DID6MNW NWTIME NWPACE
       NWSCORE NWSCOREQ NWRATIO ABLE5CS CHR5PACE CAT5CS CSRATIO SBSCORE
       FSBTIME FSBRATIO EPESEPPB HABCPPB PPB12CAT);
  set perf_&Y;
run;
/*proc freq data=Perf_&Y;
  where source="V";
  table DID&Y.UW*&pre.up1*&pre.uptm1*&pre.upru1*&pre.up2
        &Y.UWTM*DID&Y.UW*&pre.uptm1*&pre.uptm2
        &Y.UWSCR*&Y.UWPACE*DID&Y.UW*&Y.UWTM
        &Y.UWRATIO*DID&Y.UW*&Y.UWPACE / list missing nocum nopercent;
  format &Y.UWTM &pre.UPTM1 &pre.UPTM2 walk_sec. &Y.UWPACE walk_pace. &pre.up1
&pre.up2 walk_steps. &Y.UWRATIO walk_ratio.;
  title2 "6M Usual walk - Clinic Visits";
run;

proc freq data=Perf_&Y;
  table did6mnw*&pre.20tr1*&pre.20tr2*&pre.20tr3*&pre.20cna*DID&Y.UW

nwtime*did6mnw*&pre.20tr1*&pre.20ct1*&pre.20tr2*&pre.20ct2*&pre.20tr3*&pre.20ct3
        nwscore*nwpace*did6mnw*nwtime
        nwratio*nwpace
       / list missing nocum nopercent;
  format nwtime &pre.20ct1 &pre.20ct2 &pre.20ct3 walk_sec. nwpace walk_pace.
nwratio pace_ratio.;
  title2 "20cm narrow walk";
run;

proc freq data=Perf_&Y;
  table nwscoreq*pcpacedf*DID&Y.UW*&Y.UWPACE*did6mnw*nwpace
       / list missing nocum nopercent;
  format &Y.UWPACE nwpace walk_pacex. pcpacedf pcpace_diff. pacediff pace_diff.;
  title2 "Comparison between 6M Walk and 20cm narrow walk";
run;

proc freq data=Perf_&Y;
  table EPESEPPB*&Y.UWSCR*CAT5CS*SBSCORE
        HABCPPB*FSBRATIO*CSRATIO*&Y.UWRATIO*NWRATIO
        PPB12CAT*HABCPPB
        / list missing nocum nopercent;
  format HABCPPB HABCPPB. FSBRATIO CSRATIO &Y.UWRATIO NWRATIO perf_ratio.;
  title2 "Summary Performance Scores";
run;*/
%end;

%else %do;
data calc.Perfm_&Y (keep = habcid
      ABLE5CS CHR5PACE CAT5CS CSRATIO SBSCORE
```

```
       FSBTIME FSBRATIO);
  set perf_&Y;
run;
%end;
/*proc contents data=calc.Perfm_&Y varnum;
  title2 "Perf_&Y File";
run;

proc means data=calc.Perfm_&Y n nmiss min mean max;
run;*/

%mend perfm;
%perfm;
```

Appendix VII
Physical Activity Calculated Variables
Using Clinic Visit Workbook Variables

Investigator Name: Eleanor Simonsick

Step 1: assign met estimates to each activity

Met estimates derive from Ainsworth BE, Haskell WL, Leon AS, Jacobs DR, Montoye HJ, Sallis JF, Paffenbarger RS. Compendium

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label

BCMCKKWK	kcal/kg/week doing heavy chores	Assigns 3.5 kcal/kg/hour doing major chores (Y2 Qaire, page 14, Q20). Note: this question combines activities listed separately at baseline. BCMCKKWK is therefore equivalent to the sum of baseline variables FPPAKKWK and FPHCKKWK.	3.5 x BCHCTIME/60	If BCHC12MO≤.z and BCHC7DAY≤.z then BCHCKKWK≤.z;
				if (BCHC12MO=0 or BCHC12MO in (7,8) and (BCHC7DAY≤.z or BCHC7DAY=0) then BCHCKKWK=0;
				if BCHC7DAY=0 then BCHCKKWK=0;
				if BCHC12MO=1 and BCHC7DAY≤.z then BCHCKKWK=0;
				if BCHCKKWK<0 then do: if BCHC12MO=1 and BCHC7DAY=1 and (BCHCTIME≤.z or BCHCDK=-1) then BCHCTIME=120 (median value for non-missings at baseline; used here for consistency)
					kkcal/k week

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label

BCFSKKWK	kcal/kg/week climbing stairs	Assigns 4.0 kcal/kg/hour of stair climbing plus an additional 1.0 kcal/kg/hour carrying a load (Y2 Qaire, page 10, Q16). (Assumes 1 flight up/down takes 30 seconds.)	4.0 x BCFSNUM/120 +1.0 x BCFSLOAD/120	**Correction for outliers: If BCFSNUM>210 then BCFSNUM=210; if BCFSLOAD>210 then BCFSLOAD=210;**
				If BCFS12MO≤.z and BCS7DAY≤.z then BCFSKKWK=.M;
				if (BCFS12MO in (0,7,8)) and (BCS7DAY≤.z or BCS7DAY=8) then BCFSKKWK=0;
				if BCS7DAY=0 then BCFSKKWK=0;
				if BCFS12MO=1 and (BCS7DAY≤.z or BCS7DAY=8) then BCFSKKWK=0;
				if BCFSKKWK<0 then do: if BCS7DAY=1 and BCFSNUM > 0 and (BCFSLOAD≤.z or BCFSLODK=-1) then BCFSLOAD=0;
				if BCS7DAY=1 and (BCFSNUM≤.z or BCFSNUMD=-1) and BCFSLOAD > 0 then BCFSNUM=BCFSLOAD
					kkcal/k week

BCEWKKWK	kcal/kg/week walking for exercise	Assigns 4.0 kcal/kg/hour walking briskly, 3.0 to walking at moderate pace, and 2.0 to strolling (Y2 Qaire, page 11, Q17 - walking for exercise)	4.0 x BCEWTIME*BCEWTIM/60 if BCEWPACE=1, 3.0 x BCEWTIME*BCEWTIM/60 if BCEWPACE=2, and 2.0 x BCEWTIME*BCEWTIM/60 if BCEWPACE=3	If BCEW12MO≤.z and BCEW7DAY≤.z then BCEWKKWK=.M;
				if (BCEW12MO in (0,7,8) and BCEW7DAY≤.z then BCEWKKWK=0;
				if BCEW7DAY=0 then BCEWKKWK=0;
				if BCEW12MO=1 and BCEW7DAY≤.z then BCEWKKWK=0;
				if BCEWKKWK<0 then do: if BCEWTIME > 0 and BCEWTIM > 0 and (BCEWPACE≤.z or BCEWPACE=8) then BCEWKKWK=3.0 x BCEWTIME*BCEWTIM/60 (median value at baseline; used here for consistency);
				if BCEWTIME > 0 and (BCEWTIM≤.z or BCEWTDK=-1) then BCEWTIM=35 (median value at baseline; used here for consistency);
				if (BCEWTIME≤.z or BCEWTMDK=-1) and BCEWTIM > 0 then BCEWTIME=4 (median value at baseline; used here for consistency)
					kkcal/k week

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label

BCOWKKWK	kcal/kg/week doing other walking	Assigns 4.0 kcal/kg/hour walking briskly, 3.0 to walking at moderate pace, and 2.0 to strolling (Y2 Qaire, page 12, Q18 - other walking)	4.0 x BCOWTIME*BCOWTIM/60 if BCOWPACE=1, 3.0 x BCOWTIME*BCOWTIM/60 if BCOWPACE=2, and 2.0 x BCOWTIME*BCOWTIM/60 if BCOWPACE=3	If BCOW12MO≤.z and BCOW7DAY≤.z then BCOWKKWK=.M;
				if (BCOW12MO in (0,7,8) and BCOW7DAY≤.z then BCOWKKWK=0;
				if BCOW7DAY=0 then BCOWKKWK=0;
				if BCOW12MO=1 and BCOW7DAY≤.z then BCOWKKWK=0;
				if BCOWKKWK<0 then do: if BCOWTIME > 0 and BCOWTIM > 0 and (BCOWPACE≤.z or BCOWPACE=8) then BCOWKKWK=3.0 x BCOWTIME*BCOWTIM/60
				if BCOWTIME > 0 and (BCOWTIM≤.z or BCOWTDK=-1) and BCOWPACE ≥ 1 then BCOWTIM=25 (median value at baseline; used here for consistency);
				if BCOWTIME > 0 and (BCOWTIM≤.z OR BCOWTDK=-1) and (BCOWPACE≤.z OR BCOWPACE=8) then BCOWTIM=25;
				if (BCOWTIME≤.z OR BCOWTMDK=-1) and BCOWTIM > 0 then BCOWTIME=3
				if BCOW7DAY=1 then BCOWKKWK=3.0 x BCOWTIME*BCOWTIM/60
					kkcal/k week

BCTWKKWK	kcal/kg/week doing all walking	Sums exercise walking and other walking	sum of BCEWKKWK, BCOWKKWK	If BCEWKKWK is missing and BCOWKKWK is missing, then BCTWKKWK is missing	kkcal/k week
(BCHIKKWK)	kcal/kg/week high intensity exercise	N/A (although Y2 Qaire, page 13, Q19 asks about high intensity exercise, the time for only the first named activity was collected, compared to the first 4 named activities at baseline. Therefore BCHIKKWK would not have been comparable to FPHIKKWK and was not created.			
BCCWKKWK	kcal/kg/week doing child/adult care	Assigns 2.5 kcal/kg/hour doing child/adult care (Y2 Qaire, page 16, Q23)	2.5 x BCVWAHAW	if BCVWCURA=0 or BCVWCURA in (7,8) then BCCWKKWK=0; **if BCCWKKWK<0 then do: if BCVWCURA=1 and (BCVWAHAW≤.z or BCVWDK=-1) then BCCWKKWK=30 (median value at baseline; used here for consistency)**	kkcal/k week

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
BCVWKKWK	kcal/kg/week doing volunteer work	Assigns 1.5 kcal/kg/hour doing volunteer work if activity level is mainly sitting, 2.0 if sitting, some standing, 2.5 if mostly standing/walking, 3.0 if mostly walking/lifting (Y2 Qaire, page 15-16, Q22). Adjusts for months/year worked by multiplying result by BCVWMOV/12	1.5 x BCVWAHVW x BCVWMOV/12 if BCVWVACT=1, 2.0 x BCVWAHVW x BCVWMOV/12 if BCVWVACT=2, 2.5 x BCVWAHVW x BCVWMOV/12 if BCVWVACT=3, 3.0 x BCVWAHVW x BCVWMOV/12 if BCVWVACT=4	if BCVWCURV=0 or BCVWCURV in (7,8) then BCVWKKWK=0; **if BCVWKKWK<0 the do: if BCVWCURV=1 and BCVWAHVW > 0 and BCVWVACT≤.z then BCVWACT=2; if BCVWCURV=1 and BCVWAHVW > 0 and BCVWMOV<0 then BCVWMOV=12; if BCVWCURV=1 and BCVWAHVW≤.z and BCVWMOV > 0 then BCVWAHVW=4 (median value at baseline; used here for consistency)**	kkcal/k week
BCPWKKWK	kcal/kg/week doing paid work	Assigns 1.5 kcal/kg/hour doing paid work if activity level is mainly sitting, 2.0 if sitting, some standing, 2.5 if mostly standing/walking, 3.0 if mostly walking/lifting (Y2 Qaire, page 15, Q21). Adjusts for months/year worked by multiplying result by BCVWMOW/12	1.5 x BCVWAHWR x BCVWMOW/12 if BCVWWACT=1, 2.0 x BCVWAHWR x BCVWMOW/12 if BCVWWACT=2, 2.5 x BCVWAHWR x BCVWMOW/12 if BCVWWACT=3, 3.0 x BCVWAHWR x BCVWMOW/12 if BCVWWACT=4	If BCVWCURJ=0 or in (7,8) then BCPWKKWK=0; **if BCPWKKWK<0 then do: if BCVWCURJ=1 and BCVWAHWR > 0 and BCVWWACT≤.z then BCVWWACT=2; if BCVWCURJ=1 and BCVWAHWR > 0 and BCVWMOW<0 then BCVWMOW=12; if BCVWCURJ=1 and BCVWAHWR≤.z and BCVWMOW > 0 then BCVWAHWR=20 (median value ata baseline; used here for consistency)**	kkcal/k week

Step 2: create composite variables

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
WSKKWK	kcal/kg/week - walking + stairs	Sum of exercise walking, other walking, and stair climbing variables	BCEWKKWK + BCOWKKWK + BCFSKKWK	**Imputed version of component variables used; SAS SUM function used to sum all non-missing components**	kkcal/k week
WVCKKWK	kcal/kg/week - work, vol, caregiving	Sum of paid work, volunteer work, and caregiving variables	BCPWKKWK + BCVWKKWK + BCCWKKWK	**Imputed version of component variables used; SAS SUM function used to sum all non-missing components**	kkcal/k week

WALKTIME	minutes walking/week	Adds minutes exercise walking and other walking in past week	WALKTIME=(BCEWTIME*BCEWTIM) + (BCOWTIME*BCOWTIM)	If BCEWKKWK=0 and BCOWKKWK=0 then WALKTIME=0;
				if BCEWKKWK>0 and BCOWKKWK=0 then WALKTIME=BCEWTIME*BCEWTIM;
				if BCEWKKWK=0 and BCOWKKWK>0 then WALKTIME=BCOWTIME*BCOWTIM;
					min

BKTWTIME	minutes walking briskly/week	Sum of minutes brisk exercise walking plus minutes brisk other walking	If BCEWPACE=1 then BKEWTIME=BCEWTIME*BCEWTIM; If BCEWPACE>1 then BKEWTIME=0 If BCOWPACE=1 then BKOWTIME=BCOWTIME*BCOWTIM; If BCOWPACE>1 then BKOWTIME=0 BKTWTIME=BKEWTIME +	SAS SUM function sued to sum all non-missing components	min

Step 3: create categorical variables

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
WALKCAT	minutes walking/week category	Categories of time spent on any walking per week	If WALKTIME=0 then WALKCAT=0; if 0<WALKTIME<150 then WALKCAT=1; if WALKTIME ≥ 150 then WALKCAT=2	**Imputed version of component variables used**	0= 0 min/w 1= betwe 0 and 1 min/w 2= mo than 1 min/w
BRISK90	walks briskly ≥ 90 min/week	Dichotomous variable for walking briskly ≥90 min/week vs <90 min/week	If BKTWTIME=0 then BRISK90=0; if 0<BKTWTIME<90 then BRISK90=0; if BKTWTIME ≥ 90 then BRISK90=1	**Imputed version of component variables used**	0=N 1=Ye
BRISK180	walks briskly ≥ 180 min/week	Dichotomous variable for walking briskly ≥180 min/week vs <180 min/week	If BKTWTIME=0 then BRISK180=0; if 0<BKTWTIME<180 then BRISK180=0; if BKTWTIME ≥ 180 then BRISK180=1	**Imputed version of component variables used**	0=N 1=Ye

Physical Activity Calculated Variables

Using Core Home Visit Workbook (version 1.0) Variables

Step 1: assign met estimates to each activity

Met estimates derive from Ainsworth BE, Haskell WL, Leon AS, Jacobs DR, Montoye HJ, Sallis JF, Paffenbarger RS. Compendium

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
BCMCKKWK	kcal/kg/week doing heavy chores	N/A (question not asked at home visit)			

BCFSKKWK	kcal/kg/week climbing stairs	Assigns 4.0 kcal/kg/hour of stair climbing plus an additional 1.0 kcal/kg/hour carrying a load Core Home Visit Workbook page 9, Q16). (Assumes 1 flight up/down takes 30 seconds.)	4.0 x ZAFSNUM/120 +1.0 x ZAFSLOAD/120	**Correction for outliers: If ZAFSNUM>210 then ZAFSNUM=210; if ZAFSLOAD>210 then ZAFSLOAD=210;**
				IfZAFS12MO≤.z and ZAS7DAY≤.z then BCFSKKWK=.M;
				if (ZAFS12MO=0 or in (7,8)) and (ZAS7DAY≤.z or ZAS7DAY=8) then BCFSKKWK=0;
				if ZAS7DAY=0 then BCFSKKWK=0;
				if ZAFS12MO=1 and (ZAS7DAY≤.z or ZAS7DAY=8) then BCFSKKWK=0;
				if BCFSKKWK<0 then do: if ZAS7DAY=1 and ZAFSNUM > 0 and (ZAFSLOAD≤.z or ZAFSLODK=-1) then ZAFSLOAD=0;
				if ZAS7DAY=1 and (ZAFSNUM≤.z or ZAFSNUMD=-1) and ZAFSLOAD > 0 then ZAFSNUM=ZAFSLOAD
					kkcal/k week

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
(BCEWKKWK) (BCOWKKWK)	kcal/kg/week walking for exercise or doing other walking	N/A (questions not asked separately at home visit. Q17, page 10 combines exercise and other walking) See BCTWKKWK below			

BCTWKKWK	kcal/kg/week doing all walking	Assigns 4.0 kcal/kg/hour walking briskly, 3.0 to walking at moderate pace, and 2.0 to strolling (Core Home Visit Workbook page 10, Q17)	4.0 x ZAEWTIME *ZAEWTIM/60 if ZAEWPACE=1, 3.0 x ZAEWTIME *ZAEWTIM/60 if ZAEWPACE=2, and 2.0 x ZAEWTIME *ZAEWTIM/60 if ZAEWPACE=3	If ZAEW12MO≤.z and ZAEW7DAY≤.z then ZAEWKKWK=.M;
				if (ZAEW12MO in (0,7,8) and ZAEW7DAY≤.z then ZAEWKKWK=0;
				if ZAEW7DAY=0 then ZAEWKKWK=0;
				if ZAEW12MO=1 and ZAEW7DAY≤.z then ZAEWKKWK=0;
				if ZAEWKKWK<0 then do: if ZAEWTIME > 0 and ZAEWTIM > 0 and (ZAEWPACE≤.z or ZAEWPACE=8) then ZAEWKKWK=3.0 x ZAEWTIME*ZAEWTIM/60 (median value at baseline; used here for consistency);
				if ZAEWTIME > 0 and (ZAEWTIM≤.z or ZAEWTDK=-1) then ZAEWTIM=35 (median value at baseline; used here for consistency);
				if (ZAEWTIME≤.z or ZAEWTMDK=-1) and ZAEWTIM > 0 then ZAEWTIME=4 (median value at baseline; used here for consistency)
					kkcal/k week

(BCHIKKWK)	kcal/kg/week high intensity exercise	N/A (question was not asked on Core Home Visit workbook)			
BCCWKKWK	kcal/kg/week doing child/adult care	Assigns 2.5 kcal/kg/hour doing child/adult care (Core Home Visit Workbook page 11, Q18)	2.5 x BCVWAHAW	if ZAVWCURA=0 or ZAVWCURA in (7,8) then BCCWKKWK=0; **if BCCWKKWK<0 then do: if ZAVWCURA=1 and (ZAVWAHAW≤.z or ZAVWDK=-1) then BCCWKKWK=30 (median value at baseline; used here for consistency)**	kkcal/k week
(BCVWKKWK)	kcal/kg/week doing volunteer work	N/A (question not asked at home visit)			
(BCPWKKWK)	kcal/kg/week doing paid work	N/A (question not asked at home visit)			

Step 2: create composite variables

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
WSKKWK	kcal/kg/week - walking + stairs	Sum of exercise walking, other walking, and stair climbing variables	BCEWKKWK + BCFSKKWK	**Imputed version of component variables used; SAS SUM function <u>not</u> used**	kkcal/k week
WVCKKWK	kcal/kg/week - work, vol, caregiving	N/A (not all components asked at home visit)			
WALKTIME	minutes walking/week	Uses combination question (Q17, page 10) to calculate total time walking in past week	WALKTIME=(ZAEWTIME*ZAEWTIM)	If BCEWKKWK=0 then WALKTIME=0;	min
BKTWTIME	minutes walking briskly/week	Uses combination question (Q17, page 10) to calculate total time walking briskly in past week	If ZAEWPACE=1 then BKTWTIME=ZAEWTIME*ZAEWTIM; If ZAEWPACE>1 then BKTWTIME=0	If BKEWTIME is missing then BKTWTIME is missing	min

Step 3: create categorical variables

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
WALKCAT	minutes walking/week category	Categories of time spent on any walking per week	If WALKTIME=0 then WALKCAT=0; if 0<WALKTIME<150 then WALKCAT=1; if WALKTIME ≥ 150 then WALKCAT=2	**Imputed version of component variables used**	0= 0 min/wk 1= betwee 0 and 1 min/wk 2= mor than 15 min/wk
BRISK90	walks briskly ≥ 90 min/week	Dichotomous variable for walking briskly ≥90 min/week vs <90 min/week	If BKTWTIME=0 then BRISK90=0; if 0<BKTWTIME<90 then BRISK90=0; if BKTWTIME ≥ 90 then BRISK90=1	**Imputed version of component variables used**	0=No 1=Yes

Variable	General description	Detailed Description	How variable is calculated	How to handle missing or special values	Valu label
BRISK180	walks briskly ≥ 180 min/week	Dichotomous variable for walking briskly ≥180 min/week vs <180 min/week	If BKTWTIME=0 then BRISK180=0; if 0<BKTWTIME<180 then BRISK180=0; if BKTWTIME ≥ 180 then BRISK180=1	**Imputed version of component variables used**	0=No 1=Yes

```
DATA PACTSUM check;
   set habc2.bc;
   by habcid;
*PROGRAM CODE TO CREATE SUMMARY MEASURES OF PHYSICAL ACTIVITY
BASED ON CALORIC EXPENDITURE.  MET ESTIMATES DERIVE FROM AINSWORTH BE,
HASKELL WL, LEON AS, JACOBS DR, MONTOYE HJ, SALLIS JF, PAFFENBARGER RS.
COMPENDIUM OF PHYSICAL ACTIVITIES: CLASSIFICATION OF ENERGY COSTS OF
HUMAN PHYSICAL ACTIVIES. MED SCI SPORTS EXERC 25(1):71-80;

*STEP 1: CALCULATION OF KCALORIES PER KILOGRAM OF BODY WEIGHT PER WEEK
EXPENDED IN EACH ACTIVITY.  ASSIGNED MET VALUES AND ASSUMPTIONS FOLLOW.
FOR EASE OF COMPUTATION WHILE THE DATA IS STILL DIRTY, KCAL/KG/WK FOR
EACH ACTIVITY WILL BE CALCULATED DIRECTLY FROM MINUTES ACTIVITY PERFORMED
(OR LOADS WASHED, BAGS OF GROCERIES, FLIGHTS OF STAIRS CLIMBED). IT WILL
BE ASSUMED THAT A MISSING VALUE IN THESE FIELDS INDICATES NON-PARTICIPATION
AND A VALUE OF ZERO WILL BE ASSIGNED;

*MET ASSIGNMENTS AND OTHER DECISION RULES:
Q16 - GARDENING/YARDWORK = 3.5 (THIS HAS BEEN DOWNGRADED FROM 4.5)
Q17 - MAJOR CHORES = 3.5 (THIS HAS BEEN DOWNGRADED FROM 4.5)
SINCE THESE ARE COMBINED IN LATER ROUNDS THE SAME MET VALUE WAS ASSIGNED
Q18 - LIGHT HOUSE WORK = 2.5
Q19 - GROCERY SHOPPING = 3.5 FOR 4 BAGS PLUS 1.25 FOR THOSE CARRIED AND
1.25 FOR THOSE UNPACKED
Q20 - LAUNDRY - ASSUMING 30 MINUTES OF WORK PER LOAD THEN 1.0 PER LOAD
WASHED PLUS .5 PER LOAD PUT AWAY
Q21 - STAIRS = 4.0 WITH THE ASSUMPTION 1 FLIGHT UP/DOWN TAKES 30 SECONDS
PLUS 1.0 MET FOR EVERY FLIGHT CLIMBED WITH A LOAD
Q22 - WALKING FOR EXERCISE - 4.0 IF BRISK, 3.0 IF MODERATE, AND 2.0 IF
STROLL (DOWNGRADED TO 3.0 AND 2.0)
Q23 - WALKING FOR OTHER REASONS - 4.0 IF BRISK, 3.0 IF MODERATE, AND 2.0
IF STROLL (DOWNGRADED TO 3.0 AND 2.0)
Q24 - AEROBICS = 5.0
Q25 - WEIGHT TRAINING = 6.0 (DOWNGRADED TO 6)
Q26 - HIGH INTENSITY EXERCISE - 4.0 IF LIGHT, 6.0 IF MODERATE, 8.0 IF
VIGOROUS  (DOWNGRADED FROM 7.0 AND 10.0)
Q27 - MODERATE INTENSITY EXERCISE = 3.0 FOR ALL ACTIVITIES AND INTENSITY
LEVELS (DOWNGRADED FROM 4.0)
Q28 - PAID WORK = 1.5 FOR LEVEL 1, 2.0 FOR LEVEL 2, 2.5 FOR LEVEL 3, AND
3.0 FOR LEVEL 4
Q29 - VOLUNTEER WORK = 1.5 FOR LEVEL 1, 2.0 FOR LEVEL 2, 2.5 FOR LEVEL 3, AND
3.0 FOR LEVEL 4
Q30 - CAREGIVING = 2.5;


*HERE'S THE CODE;

*GARDENING AND YARDWORK;
/**********
IF BCPA12MO<=.z AND BCPA7DAY<=.z THEN BCPAKKWK=.;
IF (BCPA12MO=0 OR BCPA12MO=8) AND (BCPA7DAY<=.z OR BCPA7DAY=0) THEN BCPAKKWK=0;
IF BCPA7DAY=0 THEN BCPAKKWK=0;
IF BCPA12MO=1 AND BCPA7DAY<=.z THEN BCPAKKWK=0;
IF BCPA7DAY=1 THEN BCPAKKWK=3.5*BCPATIME/60;
*NOTE THE MEDIAN VALUE HAS BEEN ASSIGNED TO THE 24 CASES WHO HAVE
A YES FOR BOTH 12 MOS AND PAST 7 DAYS, BUT ARE
```

```
MISSING DATA ON AMOUNT OF TIME SPENT;
IF BCPAKKWK LT 0 THEN DO;
IF BCPA12MO=1 AND BCPA7DAY=1 AND BCPATIME<=.z THEN BCPATIME=150;
IF BCPA7DAY=1 THEN BCPAKKWK=3.5*BCPATIME/60; END;
*************/

*MAJOR CHORES;
IF BCHC12MO<=.z AND BCHC7DAY<=.z THEN BCMCKKWK=.;
IF (BCHC12MO=0 OR BCHC12MO IN (7,8)) AND (BCHC7DAY<=.z OR BCHC7DAY=0) THEN
BCMCKKWK=0;
IF BCHC7DAY=0 THEN BCMCKKWK=0;
IF BCHC12MO=1 AND BCHC7DAY<=.z THEN BCMCKKWK=0;
IF BCHC7DAY=1 THEN BCMCKKWK=3.5*BCHCTIME/60;
*IMPUTED MISSING CODE;
IF BCMCKKWK LT 0 THEN DO;
IF BCHC12MO=1 AND BCHC7DAY=1 AND (BCHCTIME<=.z OR BCHCDK=-1) THEN BCHCTIME=120;
IF BCHC7DAY=1 THEN BCMCKKWK=3.5*BCHCTIME/60; END;

*LIGHT HOUSEWORK;
/*************
IF BCLW12MO<=.z AND BCLW7DAY<=.z THEN BCLWKKWK=.;
IF (BCLW12MO=0 OR BCLW12MO=8) AND (BCLW7DAY<=.z OR BCLW7DAY=0) THEN BCLWKKWK=0;
IF BCLW7DAY=0 THEN BCLWKKWK=0;
IF BCLW12MO=1 AND BCLW7DAY<=.z THEN BCLWKKWK=0;
IF BCLW7DAY=1 THEN BCLWKKWK=2.5*BCLWTIME/60;
*IMPUTED MISSING CODE;
IF BCLWKKWK LT 0 THEN DO;
IF BCLW12MO=1 AND BCLW7DAY=1 AND BCLWTIME<=.z THEN BCLWTIME=420;
IF BCLW7DAY=1 THEN BCLWKKWK=2.5*BCLWTIME/60; END;
**************/

*GROCERY SHOPPING;
*ASSUME IT TAKES ONE HOUR TO SHOP FOR 4 BAGS OF GROCERIES;
/***************
IF BCGS12MO<=.z AND BCGS7DAY<=.z THEN BCGSKKWK=.;
IF (BCGS12MO=0 OR BCGS12MO=8) AND (BCGS7DAY<=.z OR BCGS7DAY=0) THEN BCGSKKWK=0;
IF BCGS7DAY=0 THEN BCGSKKWK=0;
IF BCGS12MO=1 AND BCGS7DAY<=.z THEN BCGSKKWK=0;
IF BCGS7DAY=1 THEN BCGSKKWK=(3.5*BCGSNBAG/4) + (1.25*BCGSBAGC/4) +
(1.25*BCGSBAGU/4);
*IMPUTED MISSING CODE;
IF BCGSKKWK LT 0 THEN DO;
IF BCGSNBAG<=.z AND BCGSBAGC<=.z AND BCGSBAGU<=.z THEN BCGSKKWK=0;
IF BCGSNBAG<=.z AND BCGSBAGC<=.z AND BCGSBAGU<=.z THEN BCGSKKWK=6.5;
IF BCGSNBAG=1 AND BCGSBAGC<=.z AND BCGSBAGU<=.z THEN BCGSKKWK=1.25;
IF BCGSNBAG=8 AND BCGSBAGC=8 AND BCGSBAGU<=.z THEN BCGSKKWK=12;
IF BCGSNBAG=15 AND BCGSBAGC=15 AND BCGSBAGU<=.z THEN BCGSKKWK=22.5;
IF BCGSNBAG=20 AND BCGSBAGC=20 AND BCGSBAGU<=.z THEN BCGSKKWK=30;
IF BCGSNBAG<=.z AND BCGSBAGC=0 THEN BCGSKKWK=1.75; END;
****************/

*DOING LAUNDRY;
*ASSUME 15 MINUTES OF WORK PER LOAD GATHERING/WASHING AND 15 MINUTES PER
LOAD FOLDING/PUTTING AWAY;
/*************
IF BCLD12MO<=.z AND BCLD7DAY<=.z THEN BCLDKKWK=.;
```

```
IF (BCLD12MO=0 OR BCLD12MO=8) AND (BCLD7DAY<=.z OR BCLD7DAY<=.z) THEN
BCLDKKWK=0;
IF BCLD7DAY=0 THEN BCLDKKWK=0;
IF BCLD12MO=1 AND BCLD7DAY<=.z THEN BCLDKKWK=0;
IF BCLD7DAY=1 THEN BCLDKKWK=(.5*BCLDLOAD) + (.6*BCLDFOLD);
*IMPUTED MISSING CODE;
IF BCLDKKWK LT 0 THEN DO;
IF BCLDLOAD<=.z AND BCLDFOLD<=.z THEN BCLDKKWK=.;
IF BCLDLOAD<=.z AND BCLDFOLD<=.z THEN BCLDKKWK=2.2;
IF BCLDLOAD=1 AND BCLDFOLD<=.z THEN BCLDKKWK=1.1;
IF BCLDLOAD=2 AND BCLDFOLD<=.z THEN BCLDKKWK=2.2;
IF BCLDLOAD=3 AND BCLDFOLD<=.z THEN BCLDKKWK=3.3;
IF BCLDLOAD=5 AND BCLDFOLD<=.z THEN BCLDKKWK=5.5; END;
*************/

*CLIMBING STAIRS;
*ASSUME UP/DOWN 1 FLIGHT TAKES 30 SECONDS AND ONE ADDITIONAL MET FOR
CARRYING A LOAD;
*** Cutoff for flights of stairs - only for purpose of calculated variables ***;
*** See email from MLE dated 4/6/01                                         ***;
IF BCFSNUM>210 then BCFSNUM=210;
IF BCFSLOAD>210 THEN BCFSLOAD=210;

IF BCFS12MO<=.z AND BCS7DAY<=.z THEN BCFSKKWK=.;
IF (BCFS12MO=0 OR BCFS12MO=8 OR BCFS12MO=7) AND (BCS7DAY<=.z OR BCS7DAY<=.z OR
BCS7DAY<=.z) THEN BCFSKKWK=0;
IF BCS7DAY=0 THEN BCFSKKWK=0;
IF BCFS12MO=1 AND (BCS7DAY<=.z OR BCS7DAY=8) THEN BCFSKKWK=0;
IF BCS7DAY=1 THEN BCFSKKWK=(4.0*BCFSNUM/120) + (1.0*BCFSLOAD/120);
*IMPUTED MISSING CODE;
IF BCFSKKWK LT 0 THEN DO;
IF BCS7DAY=1 AND BCFSNUM GT 0 AND (BCFSLOAD<=.z OR BCFSLODK=-1) THEN BCFSLOAD=0;
IF BCS7DAY=1 AND (BCFSNUM<=.z OR BCFSNUMD=-1) AND BCFSLOAD GT 0 THEN
BCFSNUM=BCFSLOAD;
IF BCS7DAY=1 THEN BCFSKKWK=(4.0*BCFSNUM/120) + (1.0*BCFSLOAD/120); END;

*WALKING FOR EXERCISE;
IF BCEWPACE=1 THEN BCEWMET=4.0;
IF BCEWPACE=2 THEN BCEWMET=3.0;
IF BCEWPACE=3 THEN BCEWMET=2.0;
IF BCEW12MO<=.z AND BCEW7DAY<=.z THEN BCEWKKWK=.;
IF (BCEW12MO IN (0,7,8)) AND (BCEW7DAY<=.z OR BCEW7DAY<=.z) THEN BCEWKKWK=0;
IF BCEW7DAY=0 THEN BCEWKKWK=0;
IF BCEW12MO=1 AND BCEW7DAY<=.z THEN BCEWKKWK=0;
IF BCEW7DAY=1 THEN BCEWKKWK=BCEWMET*BCEWTIME*BCEWTIM/60;
*IMPUTED MISSING CODE;
IF BCEWKKWK LT 0 THEN DO;
IF BCEWTIME > 0 AND BCEWTIM > 0 AND (BCEWPACE<=.z OR BCEWPACE=8) THEN
BCEWMET=3.0;
IF BCEWTIME > 0 AND (BCEWTIM<=.z OR BCEWTDK=-1) THEN BCEWTIM=35;
IF (BCEWTIME<=.z OR BCEWTMDK=-1) AND BCEWTIM > 0 THEN BCEWTIME=4;
IF BCEW7DAY=1 THEN BCEWKKWK=BCEWMET*BCEWTIME*BCEWTIM/60; END;

*WALKING FOR OTHER PURPOSES;
IF BCOWPACE=1 THEN BCOWMET=4.0;
IF BCOWPACE=2 THEN BCOWMET=3.0;
IF BCOWPACE=3 THEN BCOWMET=2.0;
```

```
IF BCOW12MO<=.z AND BCOW7DAY<=.z THEN BCOWKKWK=.;
IF (BCOW12MO in (0,7,8)) AND (BCOW7DAY<=.z OR BCOW7DAY<=.z) THEN BCOWKKWK=0;
IF BCOW7DAY=0 THEN BCOWKKWK=0;
IF BCOW12MO=1 AND BCOW7DAY<=.z THEN BCOWKKWK=0;
IF BCOW7DAY=1 THEN BCOWKKWK=BCOWMET*BCOWTIME*BCOWTIM/60;
*IMPUTED MISSING CODE;
IF BCOWKKWK LT 0 THEN DO;
IF BCOWTIME > 0 AND BCOWTIM > 0 AND (BCOWPACE<=.z OR BCOWPACE=8) THEN
BCOWMET=3.0;
IF BCOWTIME > 0 AND (BCOWTIM<=.z OR BCOWTDK=-1) AND BCOWPACE GE 1 THEN
BCOWTIM=25;
*** Change 1 ***;
IF BCOWTIME > 0 AND (BCOWTIM<=.z OR BCOWTDK=-1) AND (BCOWPACE<=.z OR BCOWPACE=8)
   THEN DO; BCOWTIM=25; BCOWMET=3.0; END;
IF (BCOWTIME<=.z OR BCOWTMDK=-1) AND BCOWTIM > 0 THEN BCOWTIME=3;
IF BCOW7DAY=1 THEN BCOWKKWK=BCOWMET*BCOWTIME*BCOWTIM/60; END;

*New variable for total walking*;
BCTWKKWK=sum(BCOWKKWK,BCEWKKWK);

*AEROBICS;
/****************
IF BCAC12MO<=.z AND BCAC7DAY<=.z THEN BCACKKWK=.;
IF (BCAC12MO=0 OR BCAC12MO=8) AND (BCAC7DAY<=.z OR BCAC7DAY<=.z) THEN
BCACKKWK=0;
IF BCAC7DAY=0 THEN BCACKKWK=0;
IF BCAC12MO=1 AND BCAC7DAY<=.z THEN BCACKKWK=0;
IF BCAC7DAY=1 THEN BCACKKWK=5.0*BCACTIME/60;
*IMPUTED MISSING CODE;
IF BCACKKWK LT 0 THEN DO;
IF BCAC7DAY=1 AND BCACTIME<=.z THEN BCACKKWK=6.67; END;
**************/

*WEIGHT TRAINING;
/****************
IF BCTR12MO<=.z AND BCTR7DAY<=.z THEN BCTRKKWK=.;
IF (BCTR12MO=0 OR BCTR12MO=8) AND (BCTR7DAY<=.z OR BCTR7DAY<=.z) THEN
BCTRKKWK=0;
IF BCTR7DAY=0 THEN BCTRKKWK=0;
IF BCTR12MO=1 AND BCTR7DAY<=.z THEN BCTRKKWK=0;
IF BCTR7DAY=1 THEN BCTRKKWK=6.0*BCTRTIME/60;
*IMPUTED MISSING CODE;
IF BCTRKKWK LT 0 THEN DO;
IF BCTR7DAY=1 AND BCTRTIME<=.z THEN BCTRKKWK=6.00; END;
**************/

*HIGH INTENSITY EXERCISE;
/****************
IF BCHIA1EF=1 THEN BCH1MET=4.0;
IF BCHIA1EF=2 THEN BCH1MET=6.0;
IF BCHIA1EF=3 THEN BCH1MET=8.0;
IF BCHI12MO<=.z AND BCHI7DAY<=.z THEN BCH1KKWK=.;
IF (BCHI12MO=0 OR BCHI12MO=8) AND (BCHI7DAY<=.z OR BCHI7DAY<=.z) THEN
BCH1KKWK=0;
IF BCHI7DAY=0 THEN BCH1KKWK=0;
IF BCHI12MO=1 AND BCHI7DAY<=.z THEN BCH1KKWK=0;
IF BCHI7DAY=1 THEN BCH1KKWK=BCH1MET*BCH1TIME/60;
```

```
*IMPUTED MISSING CODE;
IF BCH1KKWK LT 0 THEN DO;
IF BCHI7DAY=1 AND BCH1TIME<=.z THEN BCH1TIME=60;
IF BCHI7DAY=1 AND BCH1TIME > 0 AND BCHIA1EF<=.z THEN BCH1MET=6.0;
IF BCHI7DAY=1 THEN BCH1KKWK=BCH1MET*BCH1TIME/60; END;

IF BCHIA2EF=1 THEN BCH2MET=4.0;
IF BCHIA2EF=2 THEN BCH2MET=6.0;
IF BCHIA2EF=3 THEN BCH2MET=8.0;
BCH2KKWK=BCH2MET*BCH2TIME/60;
IF BCH2TIME<=.z THEN BCH2KKWK=0;
*IMPUTED MISSING CODE;
IF BCH2KKWK LT 0 THEN DO;
IF BCHI7DAY=1 AND BCH2TIME<=.z THEN BCH2TIME=60;
IF BCHI7DAY=1 AND BCH2TIME > 0 AND BCHIA2EF<=.z THEN BCH2MET=6.0;
IF BCHI7DAY=1 THEN BCH2KKWK=BCH2MET*BCH2TIME/60; END;

IF BCHIA3EF=1 THEN BCH3MET=4.0;
IF BCHIA3EF=2 THEN BCH3MET=6.0;
IF BCHIA3EF=3 THEN BCH3MET=8.0;
BCH3KKWK=BCH3MET*BCH3TIME/60;
IF BCH3TIME<=.z THEN BCH3KKWK=0;
*IMPUTED MISSING CODE;
IF BCH3KKWK LT 0 THEN DO;
IF BCHI7DAY=1 AND BCH3TIME<=.z THEN BCH3TIME=40;
IF BCHI7DAY=1 AND BCH3TIME > 0 AND BCHIA3EF<=.z THEN BCH3MET=6.0;
IF BCHI7DAY=1 THEN BCH3KKWK=BCH3MET*BCH3TIME/60; END;

IF BCHIA4EF=1 THEN BCH4MET=4.0;
IF BCHIA4EF=2 THEN BCH4MET=6.0;
IF BCHIA4EF=3 THEN BCH4MET=8.0;
BCH4KKWK=BCH4MET*BCH4TIME/60;
IF BCH4TIME<=.z THEN BCH4KKWK=0;
*IMPUTED MISSING CODE;
IF BCH4KKWK LT 0 THEN DO;
IF BCHI7DAY=1 AND BCH4TIME<=.z THEN BCH4TIME=30;
IF BCHI7DAY=1 AND BCH4TIME > 0 AND BCHIA4EF<=.z THEN BCH4MET=6.0;
IF BCHI7DAY=1 THEN BCH4KKWK=BCH4MET*BCH4TIME/60; END;

BCHIKKWK=SUM(OF BCH1KKWK BCH2KKWK BCH3KKWK BCH4KKWK);
**************/

*MODERATE INTENSITY EXERCISE;
/****************
IF BCMI12MO<=.z AND BCMI7DAY<=.z THEN BCM1KKWK=.;
IF (BCMI12MO=0 OR BCMI12MO=8) AND (BCMI7DAY<=.z OR BCMI7DAY<=.z) THEN
BCM1KKWK=0;
IF BCMI7DAY=0 THEN BCM1KKWK=0;
IF BCMI12MO=1 AND BCMI7DAY<=.z THEN BCM1KKWK=0;
IF BCMI7DAY=1 THEN BCM1KKWK=3.0*BCM1TIME/60;
*IMPUTED MISSING CODE;
IF BCM1KKWK LT 0 THEN DO;
IF BCMI7DAY=1 AND BCM1TIME<=.z THEN BCM1TIME=180;
IF BCHI7DAY=1 THEN BCM1KKWK=3.0*BCM1TIME/60; END;

BCM2KKWK=3.0*BCM2TIME/60;
IF BCM2TIME<=.z THEN BCM2KKWK=0;
```

```
*IMPUTED MISSING CODE;
IF BCM2KKWK LT 0 THEN DO;
IF BCMI7DAY=1 AND BCM2TIME<=.z THEN BCM2TIME=150;
IF BCHI7DAY=1 THEN BCM2KKWK=3.0*BCM2TIME/60; END;

BCM3KKWK=3.0*BCM3TIME/60;
IF BCM3TIME<=.z THEN BCM3KKWK=0;
*IMPUTED MISSING CODE;
IF BCM3KKWK LT 0 THEN DO;
IF BCMI7DAY=1 AND BCM3TIME<=.z THEN BCM3TIME=120;
IF BCHI7DAY=1 THEN BCM3KKWK=3.0*BCM3TIME/60; END;

*NO ONE REPORTED A FOURTH MODERATE ACTIVITY;

BCMIKKWK=SUM(OF BCM1KKWK BCM2KKWK BCM3KKWK);
**************/

*WORK, VOLUNTEER, AND CAREGIVING;
IF BCVWWACT=1 THEN BCVWWMET=1.5;
IF BCVWWACT=2 THEN BCVWWMET=2.0;
IF BCVWWACT=3 THEN BCVWWMET=2.5;
IF BCVWWACT=4 THEN BCVWWMET=3.0;
IF BCVWCURJ=0 OR BCVWCURJ IN (7,8) THEN BCPWKKWK=0;
IF BCVWCURJ=1 THEN BCPWKKWK=BCVWWMET*(BCVWAHWR*BCVWMOW/12);
*IMPUTED MISSING CODE;
IF BCPWKKWK LT 0 THEN DO;
IF BCVWCURJ=1 AND BCVWAHWR > 0 AND BCVWWACT<=.z THEN BCVWWMET=2.0;
*** Change 2 ***;
IF BCVWCURJ=1 AND BCVWAHWR > 0 AND BCVWMOW<=.z THEN BCVWMOW=12;
IF BCVWCURJ=1 AND BCVWAHWR<=.z AND BCVWMOW > 0 THEN BCVWAHWR=20;
IF BCVWCURJ=1 THEN BCPWKKWK=BCVWWMET*(BCVWAHWR*BCVWMOW/12); END;

IF BCVWVACT=1 THEN BCVWVMET=1.5;
IF BCVWVACT=2 THEN BCVWVMET=2.0;
IF BCVWVACT=3 THEN BCVWVMET=2.5;
IF BCVWVACT=4 THEN BCVWVMET=3.0;
IF BCVWCURV=0 OR BCVWCURV IN (7,8) THEN BCVWKKWK=0;
IF BCVWCURV=1 THEN BCVWKKWK=BCVWVMET*(BCVWAHVW*BCVWMOV/12);
*IMPUTED MISSING CODE;
*** Change 4 ***;
IF BCVWKKWK LT 0 THEN DO;
IF BCVWCURV=1 AND BCVWAHVW > 0 AND BCVWVACT<=.z THEN BCVWVMET=2.0;
*** Change 3 ***;
IF BCVWCURV=1 AND BCVWAHVW > 0 AND BCVWMOV<=.z THEN BCVWMOV=12;
IF BCVWCURV=1 AND BCVWAHVW<=.z AND BCVWMOV > 0 THEN BCVWAHVW=4;
IF BCVWCURV=1 THEN BCVWKKWK=BCVWVMET*(BCVWAHVW*BCVWMOV/12); END;


if bcvwkkwk<0 then output check;


IF BCVWCURA=0 OR BCVWCURA IN (7,8) THEN BCCWKKWK=0;
IF BCVWCURA=1 THEN BCCWKKWK=2.5*BCVWAHAW;
*IMPUTED MISSING CODE;
IF BCCWKKWK LT 0 THEN DO;
IF BCVWCURA=1 AND (BCVWAHAW<=.z OR BCVWDK=-1) THEN BCCWKKWK=30; END;
```

```
*COMPOSITE MEASURES. SINCE THE SUM FUNCTION ASSIGNS ZERO TO MISSING VALUES,
THE IMPUTED VERSION OF THE COMPONENT VARIABLES WERE USED;
*HOUSEHOLD DUTIES;
*HHKKWK=SUM(OF BCPAKKWK BCHCKKWK BCLWKKWK BCGSKKWK BCLDKKWK);
*WALKING AND STAIRS;
WSKKWK=SUM(OF BCFSKKWK BCEWKKWK BCOWKKWK);
*EXERCISE AND RECREATION;
*EXKKWK=SUM(OF BCACKKWK BCTRKKWK BCHIKKWK BCMIKKWK);
*WORK, VOLUNTEER, CAREGIVING;
WVCKKWK=SUM(OF BCPWKKWK BCVWKKWK BCCWKKWK);
*GRAND TOTAL;
*TOTKKWK=SUM(OF HHKKWK WSKKWK EXKKWK WVCKKWK);


*CODE TO EXAMINE KCALS EXPENDED IN WALKING AND VIGOROUS EXERCISE,
SIMILAR TO PAFFENBARGER;
/*************
WSKCAL=P2WTK*WSKKWK;
EXKCAL=P2WTK*EXKKWK;
HAKCAL=SUM(OF WSKCAL EXKCAL);
*CATEGORICAL HARVARD ALUM VARIABLE;
IF HAKCAL=0 THEN HACAT=0;
IF 0 < HAKCAL < 500 THEN HACAT=1;
IF 500 LE HAKCAL < 1000 THEN HACAT=2;
IF 1000 LE HAKCAL < 1500 THEN HACAT=3;
IF 1500 LE HAKCAL < 2000 THEN HACAT=4;
IF HAKCAL GE 2000 THEN HACAT=5;
*************/

*CODE TO CALCULATE AMOUNT OF WALKING
IN MINUTES, AMOUNT OF BRISK WALKING IN MINUTES, AND ENGAGEMENT IN
INTENSE EXERCISE;

IF BCEWKKWK=0 AND BCOWKKWK=0 THEN WALKTIME=0;
ELSE IF BCEWKKWK>0 AND BCOWKKWK=0 THEN WALKTIME=BCEWTIME*BCEWTIM;
ELSE IF BCEWKKWK=0 AND BCOWKKWK>0 THEN WALKTIME=BCOWTIME*BCOWTIM;
ELSE WALKTIME=(BCEWTIME*BCEWTIM) + (BCOWTIME*BCOWTIM);

IF WALKTIME=0 THEN WALKCAT=0;
IF 0<WALKTIME<150 THEN WALKCAT=1;
IF WALKTIME GE 150 THEN WALKCAT=2;

IF BCEWPACE=1 THEN BKEWTIME=BCEWTIME*BCEWTIM; IF BCEWPACE>1 THEN BKEWTIME=0;
IF BCEWKKWK=0 THEN BKEWTIME=0;
IF BCOWPACE=1 THEN BKOWTIME=BCOWTIME*BCOWTIM; IF BCOWPACE>1 THEN BKOWTIME=0;
IF BCOWKKWK=0 THEN BKOWTIME=0;
BKTWTIME=SUM(OF BKEWTIME BKOWTIME);

IF BKTWTIME=0 THEN BRISK90=0;
IF 0<BKTWTIME<90 THEN BRISK90=0;
IF BKTWTIME GE 90 THEN BRISK90=1;

IF BKTWTIME=0 THEN BRISK180=0;
IF 0<BKTWTIME<180 THEN BRISK180=0;
IF BKTWTIME GE 180 THEN BRISK180=1;

*CODE FOR MINUTES OF HIGH INTENSITY EXERCISE. INCLUDES AEROBICS
```

```
AND WEIGHT/CIRCUIT TRAINING AND ANY HIGH INTENSITY EXERCISE;

/******************
HIGHXMIN=SUM(OF BCACTIME BCTRTIME BCH1TIME BCH2TIME BCH3TIME BCH4TIME);
IF BCACKKWK=0 AND BCTRKKWK=0 AND BCH1KKWK=0 THEN HIGHXMIN=0;
IF HIGHXMIN=0 THEN HIGHX90=0;
IF 0<HIGHXMIN<90 THEN HIGHX90=0;
IF HIGHXMIN GE 90 THEN HIGHX90=1;

IF BCHIKKWK=0 THEN HIGHEX=0;
IF BCHIKKWK>0 THEN HIGHEX=1;
*****************/
output pactsum;
RUN;
proc print data=check;
  var HABCID bcvwkkwk BCVWVACT BCVWVMET BCVWCURV BCPWKKWK BCVWAHVW BCVWMOV;
  title4 'Clinic visits - missing BCVWKKWK';
run;


              ********** CORE HOME VISIT **********;

DATA PACTSUM2 check;
   set habc2.za(where=(zatype=2));
   by habcid;

*CLIMBING STAIRS;
*ASSUME UP/DOWN 1 FLIGHT TAKES 30 SECONDS AND ONE ADDITIONAL MET FOR
CARRYING A LOAD;
*** Cutoff for flights of stairs - only for purpose of calculated variables ***;
*** See email from MLE dated 4/6/01                                        ***;
IF ZAFSNUM>210 then ZAFSNUM=210;
IF ZAFSLOAD>210 THEN ZAFSLOAD=210;

IF ZAFS12MO<=.z AND ZAS7DAY<=.z THEN BCFSKKWK=.;
IF (ZAFS12MO=0 OR ZAFS12MO=8 OR ZAFS12MO=7) AND (ZAS7DAY<=.z OR ZAS7DAY<=.z OR
ZAS7DAY<=.z) THEN BCFSKKWK=0;
IF ZAS7DAY=0 THEN BCFSKKWK=0;
IF ZAFS12MO=1 AND (ZAS7DAY<=.z OR ZAS7DAY=8) THEN BCFSKKWK=0;
IF ZAS7DAY=1 THEN BCFSKKWK=(4.0*ZAFSNUM/120) + (1.0*ZAFSLOAD/120);
*IMPUTED MISSING CODE;
IF BCFSKKWK LT 0 THEN DO;
** Change 5 **;
IF ZAS7DAY=1 AND ZAFSNUM GT 0 AND (ZAFSLOAD<=.z OR ZAFSLODK=-1) THEN ZAFSLOAD=0;
IF ZAS7DAY=1 AND (ZAFSNUM<=.z OR ZAFSNUMD=-1) AND ZAFSLOAD GT 0 THEN
ZAFSNUM=ZAFSLOAD;
IF ZAS7DAY=1 THEN BCFSKKWK=(4.0*ZAFSNUM/120) + (1.0*ZAFSLOAD/120); END;

*WALKING FOR EXERCISE;
IF ZAEWPACE=1 THEN ZAEWMET=4.0;
IF ZAEWPACE=2 THEN ZAEWMET=3.0;
IF ZAEWPACE=3 THEN ZAEWMET=2.0;
IF ZAEW12MO<=.z AND ZAEW7DAY<=.z THEN BCEWKKWK=.;
IF (ZAEW12MO IN (0,7,8)) AND (ZAEW7DAY<=.z OR ZAEW7DAY<=.z) THEN BCEWKKWK=0;
IF ZAEW7DAY=0 THEN BCEWKKWK=0;
IF ZAEW12MO=1 AND ZAEW7DAY<=.z THEN BCEWKKWK=0;
IF ZAEW7DAY=1 THEN BCEWKKWK=ZAEWMET*ZAEWTIME*ZAEWTIM/60;
```

```
*IMPUTED MISSING CODE;
IF BCEWKKWK LT 0 THEN DO;
IF ZAEWTIME > 0 AND ZAEWTIM > 0 AND (ZAEWPACE<=.z OR ZAEWPACE=8) THEN
ZAEWMET=3.0;
IF ZAEWTIME > 0 AND (ZAEWTIM<=.z OR ZAEWTDK=-1) THEN ZAEWTIM=35;
IF (ZAEWTIME<=.z OR ZAEWTMDK=-1) AND ZAEWTIM > 0 THEN ZAEWTIME=4;
IF ZAEW7DAY=1 THEN BCEWKKWK=ZAEWMET*ZAEWTIME*ZAEWTIM/60; END;

*CAREGIVING*;
IF ZAVWCURA=0 OR ZAVWCURA IN (7,8) THEN BCCWKKWK=0;
IF ZAVWCURA=1 THEN BCCWKKWK=2.5*ZAVWAHAW;
*IMPUTED MISSING CODE;
IF BCCWKKWK LT 0 THEN DO;
IF ZAVWCURA=1 AND (ZAVWAHAW<=.z OR ZAVWDK=-1) THEN BCCWKKWK=30; END;

*CODE TO CALCULATE AMOUNT OF WALKING
IN MINUTES, AMOUNT OF BRISK WALKING IN MINUTES, AND ENGAGEMENT IN
INTENSE EXERCISE;

IF BCEWKKWK=0 THEN WALKTIME=0;
ELSE IF BCEWKKWK>0 THEN WALKTIME=ZAEWTIME*ZAEWTIM;

IF WALKTIME=0 THEN WALKCAT=0;
IF 0<WALKTIME<150 THEN WALKCAT=1;
IF WALKTIME GE 150 THEN WALKCAT=2;



IF ZAEWPACE=1 THEN BKEWTIME=ZAEWTIME*ZAEWTIM; IF ZAEWPACE>1 THEN BKEWTIME=0;
*** One more change ***;
IF BCEWKKWK=0 THEN BKEWTIME=0;
IF ZAEW12MO=0 OR ZAEW12MO IN (7,8) THEN BKEWTIME=0;
IF ZAEW7DAY=0 THEN BKEWTIME=0;
BKTWTIME=BKEWTIME;

IF BKTWTIME=0 THEN BRISK90=0;
IF 0<BKTWTIME<90 THEN BRISK90=0;
IF BKTWTIME GE 90 THEN BRISK90=1;

IF BKTWTIME=0 THEN BRISK180=0;
IF 0<BKTWTIME<180 THEN BRISK180=0;
IF BKTWTIME GE 180 THEN BRISK180=1;

if bktwtime<0 then output check;

*WALKING AND STAIRS;
WSKKWK=BCFSKKWK+BCEWKKWK;

output pactsum2;
RUN;

proc print data=check;
  var habcid bktwtime bkewtime zaewtime zaewtim zaewpace;
  title4 'Home visits - missing BKTWTIME';
run;

PROC SORT DATA=PACTSUM2 OUT=CHECK;
```

```
  BY WALKTIME BCEWKKWK;
PROC PRINT DATA=CHECK;
  BY WALKTIME;
  VAR HABCID BCEWKKWK ZAEWTIME ZAEWTIM;
  TITLE4 'CHECK MISSING WALKTIME FROM HOME VISITS';
RUN;

data calc.y2phact;
  set pactsum(IN=IN1)
      pactsum2(IN=IN2 rename=(BCEWKKWK=BCTWKKWK));
  by habcid;
  IF IN2 THEN VISITYPE='HOME  '; ELSE
  IF IN1 THEN VISITYPE='CLINIC';

  KEEP HABCID VISITYPE BCMCKKWK BCFSKKWK BCEWKKWK BCOWKKWK BCTWKKWK
              BCPWKKWK BCVWKKWK BCCWKKWK
              WSKKWK WVCKKWK WALKTIME WALKCAT BKTWTIME BRISK90 BRISK180 ;
format brisk180 brisk90 yndk. walkcat walk9x.;
LABEL
BCMCKKWK='KCAL/KG/WEEK DOING MAJOR CHORES'
BCFSKKWK='KCAL/KG/WEEK CLIMBING STAIRS'
BCEWKKWK='KCAL/KG/WEEK WALKING FOR EXERCISE'
BCOWKKWK='KCAL/KG/WEEK DOING OTHER WALKING'
BCTWKKWK='KCAL/KG/WEEK TOTAL WALKING'
BCPWKKWK='KCAL/KG/WEEK DOING PAID WORK'
BCVWKKWK='KCAL/KG/WEEK DOING VOLUNTEER WORK'
BCCWKKWK='KCAL/KG/WEEK DOING CHILD/ADULT CARE'
WSKKWK='KCAL/KG/WEEK - WALKING + STAIRS'
WVCKKWK='KCAL/KG/WEEK - WORK, VOL, CAREGIVING'
WALKTIME='MINUTES WALKING/WEEK'
WALKCAT='MINUTES WALKING/WEEK CATEGORY'
BKTWTIME='MINUTES WALKING BRISKLY/WEEK'
BRISK90='WALKS BRISKLY >= 90 MIN/WEEK'
BRISK180='WALKS BRISKLY >= 180 MIN/WEEK';
run;

PROC SORT DATA=CALC.Y2PHACT OUT=PHACT;
  BY VISITYPE;
RUN;

proc univariate data=PHACT;
  BY VISITYPE;
  var BCMCKKWK BCFSKKWK BCEWKKWK BCOWKKWK BCTWKKWK BCPWKKWK BCVWKKWK BCCWKKWK
WSKKWK
  WVCKKWK WALKTIME BKTWTIME ;
  title4 'Distributions of calculated variables';
run;

proc freq data=PHACT;
  BY VISITYPE;
  tables WALKCAT BRISK90 BRISK180 / missing;
run;

*ENDRSUBMIT ;
```

Appendix VIII
Self-Reported Function Calculated Variables

Using Clinic Visit Workbook Variables

Investigator Name:Eleanor Simonsick

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
EASEQM	Ease walking 1/4 mile	Recode of BCDWQMEZ where 3 is easiest; imputations applied for missing BCDWQMEZ	If BCDWQMYN in (0,7,8) then EASEQM=7-BCDWQMEZ If BCDWQMYN=1 then EASEQM=4-BCDWQMDF	**If BCDWQMYN=9 and (BCMNRS>0 or BCMNRS≠22) then BCDMQMYN=1;** **If BCDWQMEZ=8 and BCDWQMYN≠8 then BCDWAQMEZ=2;** **If BCDWQMDF=8 and BCDWQMYN≠8 then BCDWAQMDF=2;** **If BCDWQMYN in (0,7,8) and BCDWQMEZ<0 then EASEQM=4;** **If (BCDWQMYN=0 and BCDWQMEZ<0) then EASEQM=7-BCDW1MEZ;** **if (BCDWQMYN=0 and BCDWQMEZ<0) and BCDW1MEZ<0 and (BCDW1MYN=1 or BCDW1MYN=8 or BCDW1MYN≤.Z) then EASEQM=4;** **if (BCDWQMYN=0 and BCDWQMEZ<0) and (BCDW1MYN=0 and BCDW1MEZ≤.Z) then EASEQM=5** **if BCDWQMYN=1 and BCDWQMDF<0 then EASEQM=7-BCDWQMEZ;** **if BCDWQMYN=1 and BCDWQMDF<0 and BCDWQMEZ<0 then EASEQM=2;** **if BCDWQMYN<0 and BCDWQMDF>0 then EASEQM=4-BCDWQMDF;** **if BCDWQMYN<0 and BCDWQMEZ>0 then EASEQM=7-BCDWQMEZ;** **if BCDWQMYN=8 and BCDWQMEZ=8 then EASEQM=4;** if BCDWQMYN=9 and BCMNRS<0 and (BCMNRS4<0 or BCMNRS=22) then EASEQM=.	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

Self-Reported Function Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels

EASE1M	Ease walking 1 mile	Recode of BCDW1MEZ where 3 is easiest; imputations applied for missing BCDW1MEZ	If BCDW1MYN=1 then EASE1M=0;
			if BCDW1MEZ=3 then EASE1M=1;
			if BCDW1MEZ=2 then EASE1M=2;
			if BCDW1MEZ=1 then EASE1M=3
				If BCDW1MYN=8 and (BCDW1MEZ<0 or BCDW1MEZ=8) then EASE1M=1;
				if BCDW1MYN≤.Z and BCDW1MEZ≤.Z then EASE1M= EASEQM-4;
				if BCDW1MYN=0 and BCDW1MEZ≤.Z then EASE1M= EASEQM-4;
				if BCDWQMYN=1 then EASE1M=0;
				if EASEQM > 0 and (EASEQM-3 < EASE1M) and EASEQM≤3 then EASE1M=0, else
				If EASEQM-3<EASE1M then EASE1M=EASEQM-3
				If BCDW1MYN=8 and BCDW1MEZ in (1,2,3) then EASE1M= 4-BCDW1MEZ;
				If BCDW1MYN=0 and BCDW1MEZ=8 then EASE1M=EASEQM-4;
					3=very easy
					2=somewhat easy
					1=not that easy
					0=difficult

WKAINDEX	Walking ability index	Summary measure of self-reported walking ability.	WKAINDEX=EASEQM + EASE1M	**Imputed version of component variables used**	This scale ranges from 0 (unable) to 9 (very easy)
EASE1F	Ease Climbing 1 flight	Recode of BCDW10EZ where 6 is easiest; imputations applied for missing BCDW10EZ	EASE1F=7-BCDW10EZ; If BCDW10YN=1 then EASE1F= 4-BCDIF	If BCDW10YN=9 then EASE1F=.; **If BCDW10EZ=8 then BCDW10EZ=2;** **If BCDIF=8 then BCDIF=2;** **If BCDW10EZ<0 then EASE1F=7-BCDW20EZ;** **If BCDW10YN=1 and (BCDIF=8 or BCDIF<0) then EASE1F=2;** **If BCDW10YN=0 and BCDW10EZ<0 and BCDW10EZ<0 then EASE1F=4;** **if EASE1F=. and BCDW10YN≠9 and BCDW10YN>0 and (BCDW20YN=1 or BCDW20YN=8 or BCDW20YN≤.Z) THEN EASE1F=4;** **if EASE1F=. and BCDW20YN=0 and BCDW20EZ≤.Z then EASE1F=5**	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

Self-Reported Function Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels

EASE2F	Ease Climbing 2 flights	Recode of BCDW20EZ where 3 is easiest; imputations applied for missing BCDW20EZ	If BCDW20YN=1 then EASE2F=0;
			if BCDW20EZ=3 then EASE2F=1;
			if BCDW20EZ=2 then EASE2F=2;
			if BCDW20EZ=1 then EASE2F=3
				If BCDW10YN=9 then EASE2F=.
				If (BCDW20YN=8 or BCDW20YN<0) and (BCDW20EZ<0 or BCDW20EZ=8) and EASE1F>0 then EASE2F=1;
				if BCDW20YN≤.Z and BCDW20EZ≤.Z then EASE2F=EASE1F-4;
				if BCDW20YN=0 and (BCDW20EZ≤.Z or BCDW20EZ=8) and EASE1F>0 then EASE2F=EASE1F-4;
				if BCDW10YN=1 then EASE2F=0;
				if .Z<EASE1F≤3 then EASE2F=0, else
				If EASE1F-3 < EASE2F then EASE2F=EASE1F-3
					3=very easy
					2=somewhat easy
					1=not that easy
					0=difficult

CSAINDEX	Climbing stairs ability index	Summary measure of self-reported walking ability.	CSAINDEX=EASE1F + EASE2F	**Imputed version of component variables used**	This scale ranges from 0 (unable) to 9 (very easy)
EASE10P	Ease lift/carry 10 lbs	Recode of BCDIF10, BCEZ10LB, and BCD10AMT into a single variable, where 6 is easiest; imputations applied for missing	If BCDIF10=0 or in (7,8) and BCEZ10LB ≠8 then EASE10P=7-BCEZ10LB; If BCDIF10=1 then EASE10P=4-BCD10AMT	**If BCDIF10=0 and (BCEZ20LB=8 or BCEZ10LB<0) then EASE10P=5; otherwise** **If BCDIF10 in (0,7,8) and BCEZ10LB=8 then EASE10P=4;** If BCDIF10=1 and (BCD10AMT=8 or BCD10AMT<0) then EASE10P=.; otherwise **if BCDIF10≤.Z and BCD10AMT>0 and BCEZ10LB<0 then EASE10P=4-BCD10AMT;** **if BCDIF10≤.Z and BCD10AMT<0 and BCEZ10LB>0 then EASE10P=7-BCEZ10LB;** **if EASE10P=. and BCD20LBS ≠ 1 and BCD20LB≠8 then EASE10P=7-BCEZ20LB;** **if EASE10P=. and BCD20LBS=0 and BCEZ20LB=8 or ≤.Z then EASE10P=6;** **if EASE10P=. and BCDIF10=0 and BCD20LBS=1 then EASE10P=4;** **if EASE10P=. and BCDIF10=8 and BCD20LBS=1 then EASE10P=4;** **if EASE10P=. and BCDIF10 in (0,8) and (BCD20LBS<0 or BCD20LBS=8) and (BCEZ20LB<0 or BCEZ20LB=8) then EASE10P=4;** **if EASE10P=. and BCDIF10=0 and BCEZ10LB≤.Z and BCD10AMT>0 then EASE10P=4-BCD10AMT**	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

Self-Reported Function Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
EASE20P	Ease lift/carry 20 lbs	Recode of BCEZ20LB where 3 is easiest; imputations applied for missing BCEZ20LB	EASE20P=4-BCEZ20LB; if BCD20LBS=1 then EASE20P=0; if 0 le EASE10P le 3 then EASE20P=0	**If BCD20LBS=8 and (BCEZ20LB=8 or BCEZ20LB<0) then EASE20p=1** **if BCD20LBS=0 and BCEZ20LB=8 then EASE20P=EASE10P-4;** **IF (BCD20LBS<=.z OR BCD20LBS=0) and (bcez20lb<=.z OR BCEZ20LB=8)** **AND EASE10P=4 THEN EASE20P=0;** **IF (BCD20LBS=0 OR BCD20LBS<=.z) AND (BCEZ20LB<=.z OR BCEZ20LB=8)** **AND EASE10P=6 THEN EASE20P=2;** **IF (BCD20LBS=0 OR BCD20LBS<=.z) AND (BCEZ20LB<=.z OR BCEZ20LB=8)** **AND EASE10P=5 THEN EASE20P=1;** **if EASE10P-3 < EASE20P then EASE20P=EASE10P-3;**	3=very easy 2=somewhat easy 1=not that easy 0=difficult
LCAINDEX	Lift/carry ability index	Summary measure of self-reported lifting/carrying ability.	LCAINDEX=EASE10P + EASE20P	**Imputed version of component variables used**	Ranges from 0 (unable) to 9 (very easy)
EASEUP	Ease rising from chair	Recode of BCDIFSTA, BCEZSTA, and BCDSTAMT into a single variable, where 6 is easiest; imputations applied for missing values	If BCDIFSTA in (0,7,8) then EASEUP=7 - BCEZSTA; if BCDIFSTA=1 then EASEUP=4 - BCDSTAMT	**If BCEZSTA=8 and BCDIFSTA ne 8 then BCEZSTA=2;** **if BCDSTAMT=8 and BCDIFSTA ne 8 then BCDSTAMT=2;** **if BCDIFSTA=8 and BCEZSTA=8 then EASEUP=4;** **if BCDIFSTA≤.Z and BCDSTAMT>0 and BCEZSTA<0 then EASEUP=4 - BCDSTAMT;** **if BCDIFSTA=8 and BCEZSTA<0 and BCDSTAMT<0 then EASEUP=4;** **if BCDIFSTA=0 and BCEZSTA≤.Z then EASEUP=5;** **if BCDIFSTA=0 and BCEZSTA≤.Z and BCDSTAMT >0 then EASEUP=4 - BCDSTAMT**	Ranges from 0 (least easy) to 6 (easiest)
EASESCK	Ease stooping	Recode of BCDIFSCK, BCEZSCK, and BCDSKAMT into a single variable, 6 is easiest	If BCDIFSCK in (0,7,8) then EASESCK=7 - BCEZSCK; if BCDIFSCK=1 then EASESCK=4 - BCDSCKAM	**If BCDSCKAM=8 and BCDIFSCK ne 8 then BCDSCKAM=2;** **if BCEZSCK=8 and BCDIFSCK ne 8 then BCEZSCK=2;** **if BCDIFSCK=8 and BCDSCKAM=8 then EASESCK=4;** **if BCDIFSCK=8 and BCEZSCK=8 then EASESCK=4;** **If BCDIFSCK<0 and BCDSCKAM > 0 and BCEZSCK<0 then EASESCK=4 - BCDSCKAM;** **if BCDIFSCK=8 and BCDSCKAM<0 and BCEZSCK<0 then EASESCK=4;** **if BCDIFSCK=0 and BCEZSCK<0 then EASESCK=5;** **if BCDIFSCK=0 and BCEZSCK<0 and BCDSCKAM >0 then EASESCK=4 - BCDSCKAM**	Ranges from 0 (least easy) to 6 (easiest)

Self-Reported Function Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
EASEHHW	Ease doing heavy work	Recode of BCDIFHW, BCEZHW, and BCDHWAMT into a single variable, 6 is easiest	If BCDIFHW in (0,7,8) then EASEHHW=7 - BCEZHW; if BCDIFHW=1 then EASEHHW=4 - BCDHWAMT	**If BCDIFHW=8 and BCDHWAMT=8 then EASEHW=4;** **if BCDHWAMT=8 then BCDHWAMT=2;** **if BCEZHW=8 then BCEZHW=2;** **If BCDIFHW<0 and BCDHWAMT > 0 and BCEZHW<0 then EASEHHW=4 - BCDHWAMT;** **if BCDIFHW=8 and BCDHWAMT<0 and BCEZHW<0 then EASEHHW=4;** **if BCDIFHW=0 and BCEZHW<0 then EASEHHW=5;** **if BCDIFHW=0 and BCEZHW<0 and BCDHWAMT > 0 then EASEHHW=4 - BCDHWAMT**	Ranges from 0 (least easy) to 6 (easiest)

Self-Reported Function Calculated Variables

Using Core Home Visit Workbook (version 1.2) Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
EASEQM	Ease walking 1/4 mile	Recode of ZCDWQMEZ where 3 is easiest; imputations applied for missing ZCDWQMEZ	If ZCDWQMYN in (0,7,8) then EASEQM=7-ZCDWQMEZ If ZCDWQMYN=1 then EASEQM=4-ZCDWQMDF	**If ZCDWQMYN=9 and (ZCMNRS>0 or ZCMNRS4 in (1,2)) then ZCDMQMYN=1;** **If ZCDWQMEZ=8 and ZCDWQMYN≠8 then ZCDWAQMDF=2;** **If ZCDWQMEZ=8 and ZCDWQMYN≠8 then ZCDWAQMEZ=2;** **If ZCDWQMYN in (0,7,8) and ZCDWQMEZ<0 then EASEQM=4;** **If (ZCDWQMYN=0 and ZCDWQMEZ<0) then EASEQM= 7-ZCDW1MEZ;** **if (ZCDWQMYN=0 and ZCDWQMEZ<0) and ZCDW1MEZ<0 and (ZCDW1MYN=1 or ZCDW1MYN=8 or ZCDW1MYN≤.Z) then EASEQM=4;** **if (ZCDWQMYN=0 and ZCDWQMEZ<0) and (ZCDW1MYN=0 and ZCDW1MEZ≤.Z) then EASEQM=5** **if ZCDWQMYN=1 and ZCDWQNDF<0 then EASEQM= 7-ZCDWQMEZ;** **if ZCDWQMYN=1 and ZCDWQNDF<0 and ZCDWQMEZ<0 then EASEQM=2;** **if ZCDWQMYN<0 and ZCDWQMDF>0 then EASEQM= 4-ZCDWQMDF;** **if ZCDWQMYN<0 and ZCDWQMEZ>0 then EASEQM= 7-ZCDWQMEZ;** **if ZCDWQMYN=8 and ZCDWQMEZ=8 then EASEQM=4;** if ZCDWQMYN=9 and ZCMNRS<0 and (ZCMNRS4<0 or ZCMNRS4=8) then EASEQM=.	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

Self-Reported Function Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels

EASE1M	Ease walking 1 mile	Recode of ZCDW1MEZ where 3 is easiest; imputations applied for missing ZCDW1MEZ	If ZCDW1MYN=1 then EASE1M=0;
			if ZCDW1MEZ=3 then EASE1M=1;
			if ZCDW1MEZ=2 then EASE1M=2;
			if ZCDW1MEZ=1 then EASE1M=3
				If ZCDW1MYN=8 and (ZCDW1MEZ<0 or ZCDW1MEZ=8) then EASE1M=1;
				if ZCDW1MYN≤.Z and ZCDW1MEZ≤.Z then EASE1M= EASEQM-4;
				if ZCDW1MYN=0 and ZCDW1MEZ≤.Z then EASE1M= EASEQM-4;
				if ZCDWQMYN=1 then EASE1M=0;
				if EASEQM > 0 and (EASEQM-3 < EASE1M) and EASEQM≤3 then EASE1M=0, else
				If EASEQM-3<EASE1M then EASE1M=EASEQM-3
				If ZCDW1MYN=8 and ZCDW1MEZ in (1,2,3) then EASE1M= 4-ZCDW1MEZ;
				If ZCDW1MYN=0 and ZCDW1MEZ=8 then EASE1M= EASEQM-4;	

WKAINDEX	Walking ability index	Summary measure of self-reported walking ability.	WKAINDEX=EASEQM + EASE1M	**Imputed version of component variables used**	This scale ranges from 0 (unable) to 9 (very easy)
EASE1F	Ease Climbing 1 flight	Recode of ZCDW10EZ where 6 is easiest; imputations applied for missing ZCDW10EZ	EASE1F=7-ZCDW10EZ; If ZCDW10YN=1 then EASE1F= 4-ZCDIF	If ZCDW10YN=9 then EASE1F=.; **If ZCDW10EZ=8 then ZCDW10EZ=2;** **If ZCDIF=8 then ZCDIF=2;** **If ZCDW10EZ<0 then EASE1F=7-ZCDW20EZ;** **If ZCDW10YN=1 and (ZCDIF=8 or ZCDIF<0) then EASE1F=2;** **If ZCDW10YN=0 and ZCDW10EZ<0 and ZCDW10EZ<0 then EASE1F=4;** **if EASE1F=. and ZCDW10YN≠9 and ZCDW20YN>0 and (ZCDW20YN=1 or ZCDW20YN=8 or ZCDW20YN≤.Z) THEN EASE1F=4;** **if EASE1F=. and ZCDW20YN=0 and ZCDW20EZ≤.Z then EASE1F=5**	6=very easy 5=somewhat easy 4=not that easy 3=a little difficult 2=somewhat difficult 1=very difficult 0=unable to do

Self-Reported Function Calculated Variables

Variable	General Description	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels

EASE2F	Ease Climbing 2 flights	Recode of ZCDW20EZ where 3 is easiest; imputations applied for missing ZCDW20EZ	If ZCDW20YN=1 then EASE2F=0;
			if ZCDW20EZ=3 then EASE2F=1;
			if ZCDW20EZ=2 then EASE2F=2;
			if ZCDW20EZ=1 then EASE2F=3
				If ZCDW10YN=9 then EASE2F=.;
				If (ZCDW20YN=8 or ZCDW20YN<0) and (ZCDW20EZ<0 or ZCDW20EZ=8) and EASE1F>0 then EASE2F=1;
				if ZCDW20YN≤.Z and ZCDW20EZ≤.Z then EASE2F=EASE1F-4;
				if ZCDW20YN=0 and (ZCDW20EZ≤.Z or ZCDW20EZ=8) and EASE1F>0 then EASE2F=EASE1F-4;
				if ZCDW10YN=1 then EASE2F=0;
				if .Z<EASE1F≤3 then EASE2F=0, else
				If EASE1F-3 < EASE2F then EASE2F=EASE1F-3
					3=very easy
					2=somewhat easy
					1=not that easy
					0=difficult

CSAINDEX	Climbing stairs ability index	Summary measure of self-reported walking ability.	CSAINDEX=EASE1F + EASE2F	**Imputed version of component variables used**	This scale ranges from 0 (unable) to 9 (very easy)
LCAINDEX	Lift/carry ability index	N/A (question not asked at home visit)			
EASEUP	Ease rising from chair	N/A (question not asked at home visit)			
EASE10P	Ease lift/carry 10	N/A (question not asked at home visit)			
EASE20P	Ease lift/carry 20	N/A (question not asked at home visit)			
EASESCK	Ease stooping	N/A (question not asked at home visit)			
EASEHHW	Ease doing heavy work	N/A (question not asked at home visit)			

```
title 'Project: Health ABC';
title2 'Program: SRFCN_Y2.SAS';


***CLINIC VISITS***;

DATA A; SET habc2.bc;

*Rename vars that get recorded, so that we have both old and new value
*available for frequencies*;
olDWQMEZ=BCDWQMEZ;
olDW1MEZ=BCDW1MEZ;
olDWQMYN=BCDWQMYN;
olEZ20LB=BCEZ20LB;
olDSTAMT=BCDSTAMT;
olEZSTA=BCEZSTA;
olEZSCK=BCEZSCK;
olDSCKAM=BCDSCKAM;
olDWQMDF=BCDWQMDF;

*SELF-REPORT FUNCTION PROGRAM CODE;
IF BCDWQMYN=9 AND (BCMNRS>0 OR BCMNRS4 IN(1,2)) THEN BCDWQMYN=1;

*CODE FOR EASE OF WALKING 1/4 MILE.  IF EASE LEVEL MISSING, EASE LEVEL
WALKING 1 MILE WAS ASSIGNED. IF NO EASE LEVEL FOR WALKING 1M WAS CODED
AND BCDW1MYN WAS YES, DONT
KNOW, OR MISSING THEN NOT THAT EASY WAS ASSIGNED. IF NO EASE LEVEL FOR
WALKING 1M WAS CODED AND BCDW1MYN WAS NO AND BCDW1MEZ WAS MISSING THEN
SOMEWHAT EASY WAS ASSIGNED.  THE 4 CASES WHO REPORTED DIFFICULTY WERE
RECODED TO NOT THAT EASY FOR QM AND DIFFICULTY FOR 1M;
IF BCDWQMEZ=8 and bcdwqmyn ne 8 THEN BCDWQMEZ=2;
IF BCDWQMDF=8 and bcdwqmyn ne 8 THEN BCDWQMDF=2;
IF BCDWQMYN IN (0,7,8) AND BCDWQMEZ<0 THEN EASEQM=4;
  ELSE IF BCDWQMYN IN (0,7,8) THEN EASEQM=7-BCDWQMEZ;
IF (BCDWQMYN=0 AND BCDWQMEZ<0) THEN EASEQM=7-BCDW1MEZ;
IF (BCDWQMYN=0 AND BCDWQMEZ<0) AND BCDW1MEZ<0 AND (BCDW1MYN=1 OR BCDW1MYN=8
OR BCDW1MYN<=.z) THEN EASEQM=4;
IF (BCDWQMYN=0 AND BCDWQMEZ<0) AND (BCDW1MYN=0 AND BCDW1MEZ<=.z)
THEN EASEQM=5;
IF BCDWQMYN=1 THEN EASEQM=4-BCDWQMDF;

IF BCDWQMYN=1 AND BCDWQMDF<0 THEN EASEQM=7-BCDWQMEZ;
IF BCDWQMYN=1 AND BCDWQMDF<0 AND BCDWQMEZ<0 THEN EASEQM=2;
IF BCDWQMYN<0 AND BCDWQMDF>0 THEN EASEQM=4-BCDWQMDF;
IF BCDWQMYN<0 AND BCDWQMEZ>0 THEN EASEQM=7-BCDWQMEZ;

if bcdwqmyn=8 and bcdwqmez=8 then easeqm=4;
IF BCDWQMYN=9 AND BCMNRS<0 AND (BCMNRS4<0 OR BCMNRS4=8) THEN EASEQM=.;

*CODE FOR EASE OF WALKING 1 MILE. AS SELF-REPORTED WALKING ABILITY IS A KEY
DEPENDENT
MEASURE IN HEALTH ABC, MISSING VALUES WERE RECODED TO NON-MISSING WHENEVER A
REASON
GUESS COULD BE MADE BASED ON OTHER AVAILABLE INFORMATION. SEE BELOW FOR CODE AND
RECODING RULES FOR MISSING VALUES;
*IF BCDW1MYN IN (0,1) AND BCDW1MEZ=8 THEN BCDW1MEZ=2;
IF BCDW1MYN=1 THEN EASE1M=0;
```

```
IF BCDW1MEZ=3 THEN EASE1M=1;
IF BCDW1MEZ=2 THEN EASE1M=2;
IF BCDW1MEZ=1 THEN EASE1M=3;
*MISSING VALUE RECODES;
IF BCDW1MYN=8 AND (BCDW1MEZ<0 OR BCDW1MEZ=8) THEN EASE1M=1;
IF BCDW1MYN<=.z AND BCDW1MEZ<=.z AND EASEQM=4 THEN EASE1M=0;
IF BCDW1MYN<=.z AND BCDW1MEZ<=.z AND EASEQM=5 THEN EASE1M=1;
IF BCDW1MYN<=.z AND BCDW1MEZ<=.z AND EASEQM=6 THEN EASE1M=2;
IF BCDW1MYN=0 AND BCDW1MEZ<=.z AND EASEQM=4 THEN EASE1M=0;
IF BCDW1MYN=0 AND BCDW1MEZ<=.z AND EASEQM=5 THEN EASE1M=1;
IF BCDW1MYN=0 AND BCDW1MEZ<=.z AND EASEQM=6 THEN EASE1M=2;
IF BCDWQMYN=1 THEN EASE1M=0;

*IN SOME CASES THE AMOUNT OF EASE REPORTED FOR WALKING 1 MILE WAS GREATER THAN
THE AMOUNT OF EASE REPORTED FOR 1/4 MILE.  THE CODE BELOW DOWNGRADES THE EASE
LEVEL REPORTED FOR 1M TO THAT REPORTED FOR 1/4M;
IF EASEQM GT 0 AND ((EASEQM-3) LT EASE1M) THEN DO;
 IF EASEQM LE 3 THEN EASE1M=0; ELSE
 EASE1M=EASEQM-3;
END;
if bcdw1myn=8 and bcdw1mez in (1,2,3) then ease1m=4-bcdw1mez;
if bcdw1myn=0 and bcdw1mez=8 then ease1m=easeqm-4;

*CODE TO CREATE A SUMMARY MEASURE OF SELF-REPORTED WALKING ABILITY. THIS
SCALE WILL ULTIMATELY RANGE FROM 0 TO 9, BUT AT BASELINE IT RANGES FROM
4-9, AS NO ONE HAS DIFFICULTY. THIS SCALE CAN BE CREATED IN TWO WAYS: 1) KEYING
OFF THE RESPONSE TO EASE1M AND ONLY LOOKING AT EASEQM WHEN DIFFICULTY IS
REPORTED FOR 1M OR 2) SUMMING THE RESPONSES TO THE TWO QUESTIONS. I
DID IT BOTH WAYS AND FOUND THE LATTER APPROACH SUPERIOR;

WKAINDEX=EASEQM + EASE1M;

*IF BCDWQMT2<0 THEN TIREDQM=.;
*IF BCDWQMT2=8 OR BCDWQMT2=9 THEN TIREDQM=1;
*IF BCDWQMT2=0 THEN TIREDQM=0;
*IF BCDWQMT2=1 THEN TIREDQM=1;
*IF BCDWQML2=8 OR BCDWQML2=9 OR BCDWQML1=8 OR BCDWQML1=9 THEN LESSOQM=1;
*IF BCDWQML2=0 OR BCDWQML1=0 THEN LESSOQM=0;
*IF BCDWQML2=1 OR BCDWQML1=1 THEN LESSOQM=1;


*CODE FOR EASE OF CLIMBING STAIRS;
IF BCDW10YN=9 THEN DO; EASE1F=.; EASE2F=.; END;
*IF BCDW10YN=8 AND (BCDW10EZ<0 OR BCDW10EZ=8) THEN EASE1F=4;
IF BCDW10EZ=8 THEN BCDW10EZ=2;
IF BCDIF=8 THEN BCDIF=2;
EASE1F=7-BCDW10EZ; IF BCDW10EZ<0 THEN EASE1F=7-BCDW20EZ;
IF BCDW10YN=1 THEN EASE1F=4-BCDIF;
IF BCDW10YN=1 AND (BCDIF=8 OR BCDIF<0) THEN EASE1F=2;
IF BCDW10YN=0 AND BCDW10EZ<0 AND BCDW10EZ<0 THEN EASE1F=4;

IF EASE1F=. AND BCDW10YN NE 9 AND BCDW10YN>0 AND
  (BCDW20YN=1 OR BCDW20YN=8 OR BCDW20YN<=.z OR BCDW20YN<=.z)
 THEN EASE1F=4;
IF EASE1F=. AND BCDW20YN=0 AND BCDW20EZ<=.z THEN EASE1F=5;

IF BCDW20YN=1 THEN EASE2F=0;
```

```
IF BCDW20EZ=3 THEN EASE2F=1;
IF BCDW20EZ=2 THEN EASE2F=2;
IF BCDW20EZ=1 THEN EASE2F=3;
IF (BCDW20YN=8 OR BCDW20YN<0)AND (BCDW20EZ<0 OR BCDW20EZ=8) AND EASE1F>0 THEN
EASE2F=1;
IF BCDW20YN<=.z AND BCDW20EZ<=.z AND EASE1F=4 THEN EASE2F=0;
IF BCDW20YN<=.z AND BCDW20EZ<=.z AND EASE1F=5 THEN EASE2F=1;
IF BCDW20YN<=.z AND BCDW20EZ<=.z AND EASE1F=6 THEN EASE2F=2;
IF BCDW20YN=0 AND (BCDW20EZ<=.z OR BCDW20EZ=8) AND EASE1F>0 THEN EASE2F=EASE1F-
4;
IF BCDW10YN=1 THEN EASE2F=0;

IF .z<EASE1F<=3 THEN EASE2F=0; ELSE
IF (EASE1F-3) LT EASE2F THEN EASE2F=EASE1F-3;

*CODE TO CREATE A SUMMARY MEASURE OF SELF-REPORTED STAIR CLIMBING ABILITY. THIS
SCALE WILL
RANGE FROM 0 TO 9, BUT AT BASELINE IT RANGES FROM 4-9;
CSAINDEX=EASE1F + EASE2F;

*CODE TO CREATE A SUMMARY MOBILITY MEASURE THAT COMBINES THE WALK AND STAIR
INDICIES. AS THE
TWO INDICIES HAD A CORRELATION OF .61 AND ONLY 33% HAD 9''S ON BOTH VERSUS 46%
ON THE WALK
INDEX ALONE;
MOBINDEX=CSAINDEX + WKAINDEX;
*THIS CODE COMBINES CATEGORIES OF MOBINDEX TO HAVE A REASONABLE NUMBER OF
CASES AT EACH LEVEL;
*IF MOBINDEX=8 OR MOBINDEX=9 OR MOBINDEX=10 THEN MOBINDX2=0;
*IF MOBINDEX=11 OR MOBINDEX=12 THEN MOBINDX2=1;
*IF MOBINDEX=13 OR MOBINDEX=14 THEN MOBINDX2=2;
*IF MOBINDEX=15 OR MOBINDEX=16 THEN MOBINDX2=3;
*IF MOBINDEX=17 THEN MOBINDX2=4;
*IF MOBINDEX=18 THEN MOBINDX2=5;

*IF BCDW10WX=8 OR BCDW10WX=9 THEN TIRED1F=1;
*IF BCDW10WX=0 THEN TIRED1F=0;
*IF BCDW10WX=1 THEN TIRED1F=1;
*IF BCD10LO=8 OR BCD10LO=9 OR BCDWWRLO=8 OR BCDWWRLO=9 THEN LESSO1F=1;
*IF BCD10LO=0 OR BCDWWRLO=0 THEN LESSO1F=0;
*IF BCD10LO=1 OR BCDWWRLO=1 THEN LESSO1F=1;

*CODE FOR LIFTING/CARRYING;
IF BCDIF10=0 AND (BCEZ10LB=8 OR BCEZ10LB<0) THEN EASE10P=5;
  ELSE IF BCDIF10 IN (0,7,8) and bcez10lb ne 8 THEN EASE10P=7-BCEZ10LB;
  else if bcdif in (0,7,8) and bcez10lb=8 then ease10p=4;
IF BCDIF10=1 AND (BCD10AMT=8 OR BCD10AMT<0) THEN EASE10P=.; ELSE
IF BCDIF10=1 THEN EASE10P=4 - BCD10AMT;
IF BCDIF10<=.z AND BCD10AMT>0 AND BCEZ10LB<0
THEN EASE10P=4 - BCD10AMT;
IF BCDIF10<=.z AND BCD10AMT<0 AND BCEZ10LB>0
THEN EASE10P=7 - BCEZ10LB;
IF EASE10P=. AND BCD20LBS NE 1 AND BCD20LBS NE 8 THEN EASE10P=7-BCEZ20LB;
IF EASE10P=. AND BCD20LBS=0 AND (BCEZ20LB LT 0 OR BCD20LBS=8) THEN EASE10P=6;
IF EASE10P=. AND BCDIF10=0 AND BCD20LBS=1 THEN EASE10P=4;
IF EASE10P=. AND BCDIF10=8 AND BCD20LBS=1 THEN EASE10P=4;
```

```
IF EASE10P=. AND BCDIF10 IN (0,8) AND (BCD20LBS<0 OR BCD20LBS=8) AND (BCEZ20LB<0
OR BCEZ20LB=8)
   THEN EASE10P=4;
IF EASE10P=. AND BCDIF10=0 AND BCEZ10LB<=.z AND BCD10AMT>0
THEN EASE10P=4 - BCD10AMT;

*IF BCEZ20LB=8 and bcd20lbs ne 8 THEN BCEZ20LB=2;
EASE20P=4-BCEZ20LB;
if bcd20lbs=8 and (bcez20lb=8 or bcez20lb<0) then ease20p=1;
if bcd20lbs=0 and bcez20lb=8 then ease20p=ease10p-4;

IF BCD20LBS=1 THEN EASE20P=0;
IF (0 LE EASE10P LE 3) THEN EASE20P=0;

IF (BCD20LBS<=.z OR BCD20LBS=0) and (bcez20lb<=.z OR BCEZ20LB=8)
 AND EASE10P=4 THEN EASE20P=0;
IF (BCD20LBS=0 OR BCD20LBS<=.z) AND (BCEZ20LB<=.z OR BCEZ20LB=8)
 AND EASE10P=6 THEN EASE20P=2;
IF (BCD20LBS=0 OR BCD20LBS<=.z) AND (BCEZ20LB<=.z OR BCEZ20LB=8)
 AND EASE10P=5 THEN EASE20P=1;

if habcid in (1341,5805,1251,1624,2046,2445) then put
  habcid= bcd20lbs= bcez20lb= ease10p= ease20p=;

IF (EASE10P-3) LT EASE20P THEN DO;
EASE20P=EASE10P-3; IF EASE20P<0 THEN EASE20P=0; END;

if habcid in (1341,5805,1251,1624,2046,2445) then put
  habcid= bcd20lbs= bcez20lb= ease10p= ease20p=;

*CODE FOR SUMMARY INDEX;
LCAINDEX=EASE10P + EASE20P;

*IF BCD10AMT=4 THEN LESSO10P=1;
*IF BCLS12M0=8 OR BCLS12M0=9 OR BCLESS10=8 OR BCLESS10=9 THEN LESSO10P=1;
*IF BCLS12M0=0 OR BCLESS10=0 THEN LESSO10P=0;
*IF BCLS12M0=1 OR BCLESS10=1 THEN LESSO10P=1;

*OTHER FUNCTION MEASURES;
IF BCEZSTA=8 and bcdifsta ne 8 THEN BCEZSTA=2;
IF BCDSTAMT=8 and bcdifsta ne 8 THEN BCDSTAMT=2;
IF BCDIFSTA IN (0,7,8) THEN EASEUP=7 - BCEZSTA;
IF BCDIFSTA=1 THEN EASEUP=4 - BCDSTAMT;
if bcdifsta=8 and bcezsta=8 then easeup=4;
IF BCDIFSTA<=.z AND BCDSTAMT>0 AND BCEZSTA<0
THEN EASEUP=4 - BCDSTAMT;
IF BCDIFSTA=8 AND BCEZSTA<0 AND BCDSTAMT<0 THEN EASEUP=4;
IF BCDIFSTA=0 AND BCEZSTA<=.z THEN EASEUP=5;
IF BCDIFSTA=0 AND BCEZSTA<=.z AND BCDSTAMT >0
THEN EASEUP=4 - BCDSTAMT;

IF BCDSCKAM=8 and bcdifsck ne 8 THEN BCDSCKam=2;
IF BCEZSCK=8 and bcdifsck ne 8 THEN BCEZSCK=2;
IF BCDIFSCK IN (0,7,8) THEN EASESCK=7 - BCEZSCK;
IF BCDIFSCK=1 THEN EASESCK=4 - BCDSCKAM;
IF BCDIFSCK=8 AND BCDSCKAM=8 THEN EASESCK=4;
IF BCDIFSCK=8 AND BCEZSCK=8 THEN EASESCK=4;
```

```
IF BCDIFSCK<=.z AND BCDSCKAM GT 0 AND BCEZSCK<0
THEN EASESCK=4 - BCDSCKAM;
IF BCDIFSCK=8 AND BCDSCKAM<0 AND BCEZSCK<0 THEN EASESCK=4;
IF BCDIFSCK=0 AND BCEZSCK<=.z THEN EASESCK=5;
IF BCDIFSCK=0 AND BCEZSCK<=.z AND BCDSCKAM >0
THEN EASESCK=4 - BCDSCKAM;

IF BCDIFHW=8 AND BCDHWAMT=8 THEN EASEHW=4;
IF BCDHWAMT=8 THEN BCDHWAMT=2;
IF BCEZHW=8 THEN BCEZHW=2;
IF BCDIFHW IN (0,7,8) THEN EASEHHW=7 - BCEZHW;
IF BCDIFHW=1 THEN EASEHHW=4 - BCDHWAMT;
IF BCDIFHW<=.z AND BCDHWAMT GT 0 AND BCEZHW<0
THEN EASEHHW=4 - BCDHWAMT;
IF BCDIFHW=8 AND BCDHWAMT<0 AND BCEZHW<0 THEN EASEHHW=4;
IF BCDIFHW=0 AND BCEZHW<=.z THEN EASEHHW=5;
IF BCDIFHW=0 AND BCEZHW<=.z AND BCDHWAMT GT 0
THEN EASEHHW=4 - BCDHWAMT;

*IF BCDHWAMT=4 THEN LESSOHW=1;
*IF BCHW12MO=1 OR BCHW12MO=8 OR BCHW12MO=9 THEN LESSOHW=1;
*IF BCHW12MO=0 THEN LESSOHW=0;

*DIFBCP=BCDIFPP;
*IF BCDIFPP=7 THEN DIFFPP=.;
*IF BCDIFPP=8 THEN DIFFPP=1;
*IF BCDIFPP<=.z AND BCDIFPAM > 0 THEN DIFFPP=1;

LABEL
EASEQM='EASE WALKING 1/4 MILE, 6=VERY EASY'
EASE1M='EASE WALKING 1 MILE, 3=VERY EASY'
WKAINDEX='WALKING ABILITY INDEX, 9=BEST'
/*TIREDQM='GETS TIRED WALKING 1/4 MILE, 1=YES'*/
/*LESSOQM='WALKS 1/4 MILE LESS OFTEN, 1=YES'*/
EASE1F='EASE CLIMBING 1 FLIGHT, 6=VERY EASY'
EASE2F='EASE CLIMBING 2 FLIGHTS, 3=VERY EASY'
CSAINDEX='CLIMBING STAIRS ABILITY INDEX, 9=BEST'
/*TIRED1F='GETS TIRED CLIMBING 1 FLIGHT, 1=YES'*/
/*LESSO1F='CLIMBS STAIRS LESS OFTEN, 1=YES'*/
EASE10P='EASE LIFT/CARRY 10 LBS, 6=VERY EASY'
EASE20P='EASE LIFT/CARRY 20 LBS, 3=VERY EASY'
LCAINDEX='LIFT/CARRY ABILITY INDEX, 9=BEST'
/*LESSO10P='LIFT/CARRY 10 LBS LESS OFTEN, 1=YES'*/
EASEUP='EASE RISING FROM CHAIR, 6=VERY EASY'
EASESCK='EASE STOOPING, 6=VERY EASY'
EASEHHW='EASE DOING HEAVY WORK, 6=VERY EASY'
/*LESSOHW='DOES HEAVY WORK LESS OFTEN, 1=YES'*/
/*DIFFPP='DIFFICULTY PUSHING/PULLING, 1=YES'*/;
RUN;

proc freq data=a;
  tables
         EASEQM*BCDWQMYN*BCDWQMEZ*BCDWQMDF*BCDW1MYN*BCDW1MEZ*BCMNRS4
         EASE1M*BCDW1MYN*BCDW1MEZ*EASEQM*BCDWQMYN
         WKAINDEX*EASEQM*EASE1M
         /*TIREDQM*BCDWQMT2*/
         EASE1F*BCDW10YN*BCDW10EZ*BCDW20YN*BCDW20EZ*BCDIF
```

```
         EASE2F*BCDW20YN*BCDW20EZ*EASE1F
         CSAINDEX*EASE1F*EASE2F
         /*TIRED1F*BCDW10WX*/
         EASE10P*BCDIF10*BCEZ10LB*BCD10AMT*BCD20LBS*BCEZ20LB
         EASE20P*BCEZ20LB*BCD20LBS*EASE10P
         LCAINDEX*EASE10P*EASE20P
         EASEUP*BCDIFSTA*BCDSTAMT*BCEZSTA
         EASESCK*BCDIFSCK*BCEZSCK*BCDSCKAM
         EASEHHW*BCDIFHW*BCEZHW*BCDHWAMT
       / MISSING LIST;
  format EASEQM BCDWQMYN BCDWQMEZ BCDWQMDF BCDW1MYN BCDW1MEZ BCMNRS4
         EASE1M WKAINDEX BCDWQMT2
         EASE1F BCDW10YN BCDW10EZ BCDW20YN BCDW20EZ BCDIF
         EASE2F CSAINDEX /*TIRED1F*/ BCDW10WX
         EASE10P BCDIF10 BCEZ10LB BCD10AMT BCD20LBS BCEZ20LB
         EASE20P LCAINDEX
         EASEUP BCDIFSTA BCDSTAMT BCEZSTA
         EASESCK BCDIFSCK BCEZSCK BCDSCKAM
         EASEHHW BCDIFHW BCEZHW BCDHWAMT;
  title4 'Clinic visits';
run;
data y1;
  set daf.y1calc(keep=habcid easeqm ease1m ease1f ease2f ease10p ease20p easeup
easesck easehhw);
run;
data all;
  merge y1(in=iny1
           rename=(easeqm=easeqmy1
                   ease1m=ease1my1
                   ease1f=ease1fy1
                   ease2f=ease2fy1
                   ease10p=ease10y1
                   ease20p=ease20y1
                   easeup=easeupy1
                   easesck=easescy1
                   easehhw=easehhy1))
         a(in=iny2);
  by habcid;
  if not iny1 and iny2 then put 'Not in both? ' habcid= iny1= iny2=;
run;
%macro skip;
data all1;
  set all;
  if olDWQMEZ in (8,9) or olDWQMDF in (8,9) or (olDWQMYN=0 and olDWQMEZ<0);
data all1; set all1;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list1.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASEQM' '09'x 'EASEQMY1' '09'x 'BCDWQMYN' '09'x
'BCDWQMEZ' '09'x 'BCMNRS' '09'x 'BCDWQMDF' '09'x
      'BCDW1MYN' '09'x 'BCDW1MEZ' '09'x 'BCMNRS4';
  put habcid '09'x EASEQM '09'x EASEQMY1 '09'x olDWQMYN '09'x olDWQMEZ '09'x
BCMNRS '09'x olDWQMDF '09'x
      BCDW1MYN '09'x olDW1MEZ '09'x BCMNRS4;
run;

data all2;
```

```
  set all;
  if BCDW1MYN=8 or olDW1MEZ=8 or EASE1M<0;
data all2; set all2;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list2.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASE1M' '09'x 'EASE1MY1' '09'x 'BCDW1MYN' '09'x
'BCDW1MEZ' '09'x 'EASEQM' '09'x 'BCDWQMYN';
  put habcid '09'x EASE1M '09'x EASE1MY1 '09'x BCDW1MYN '09'x olDW1MEZ '09'x
EASEQM '09'x olDWQMYN;
run;

data all3;
  set all;
  if BCDW10YN in (8,9) or BCDW20YN=8 or EASE1F<0;
data all3; set all3;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list3.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASE1F' '09'x 'EASE1FY1' '09'x 'BCDW10YN' '09'x
'BCDW10EZ' '09'x 'BCDW20YN' '09'x
      'BCDW20EZ' '09'x 'BCDIF';
  put habcid '09'x EASE1F '09'x EASE1FY1 '09'x BCDW10YN '09'x BCDW10EZ '09'x
BCDW20YN '09'x
      BCDW20EZ '09'x BCDIF;
run;

data all4;
  set all;
  if BCDW20YN=8 or BCDW20EZ=8 or EASE2F<0;
data all4; set all4;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list4.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASE2F' '09'x 'EASE2FY1' '09'x 'BCDW20YN' '09'x
'BCDW20EZ' '09'x 'EASE1F';
  put habcid '09'x EASE2F '09'x EASE2FY1 '09'x BCDW20YN '09'x BCDW20EZ '09'x
EASE1F;
run;

data all5;
  set all;
  if BCDIF10=8 or BCEZ10LB=8;
data all5; set all5;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list5.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASE10P' '09'x 'EASE10Y1' '09'x 'BCDIF10' '09'x
'BCEZ10LB' '09'x 'BCD10AMT' '09'x 'BCD20LBS' '09'x 'BCEZ20LB';
  put  habcid '09'xEASE10P '09'x EASE10Y1 '09'x BCDIF10 '09'x BCEZ10LB '09'x
BCD10AMT '09'x BCD20LBS '09'x olEZ20LB;
run;

data all6;
  set all;
  if olEZ20LB=8 or BCD20LBS=8;
data all6; set all6;
```

```
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list6.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASE20P' '09'x 'EASE20Y1' '09'x 'BCEZ20LB' '09'x
'BCD20LBS' '09'x 'EASE10P';
  put habcid '09'x EASE20P '09'x EASE20Y1 '09'x olEZ20LB '09'x BCD20LBS '09'x
EASE10P;
run;

data all7;
  set all;
  if BCDIFSTA=8 or olDSTAMT=8 or olEZSTA=8;
data all7; set all7;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list7.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASEUP' '09'x 'EASEUPY1' '09'x 'BCDIFSTA' '09'x
'BCDSTAMT' '09'x 'BCEZSTA';
  put habcid '09'x EASEUP '09'x EASEUPY1 '09'x BCDIFSTA '09'x olDSTAMT '09'x
olEZSTA;
run;

data all8;
  set all;
  if BCDIFSCK=8 or olEZSCK=8 or olDSCKAM=8;
data all8; set all8;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list8.xls';
  if _n_=1 then
  put 'HABC ID' '09'x 'EASESCK' '09'x 'EASESCY1' '09'x 'BCDIFSCK' '09'x
'BCEZSCK' '09'x 'BCDSCKAM';
  put habcid '09'x EASESCK '09'x EASESCY1 '09'x BCDIFSCK '09'x olEZSCK '09'x
olDSCKAM;
run;


proc freq noprint data=all(where=(easeqm<0));
  tables EASEQM*EASEQMY1*olDWQMYN*olDWQMEZ*olDWQMDF*BCDW1MYN*olDW1MEZ*BCMNRS4
         / missing list out=out1;
  format EASEQM EASEQMY1 olDWQMYN olDWQMEZ olDWQMDF BCDW1MYN olDW1MEZ BCMNRS4;
  title2 'Year 2 EASEQM missing';
run;
data _null_;
  set out1;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\EASEQM.MISSING.xls';
  if _n_=1 then
  put 'EASEQM' '09'x  'EASEQMY1' '09'x 'BCDWQMYN' '09'x 'BCDWQMEZ' '09'x
'BCDWQMDF' '09'x
      'BCDW1MYN' '09'x 'BCDW1MEZ' '09'x 'BCMNRS4' '09'x 'COUNT' '09'x 'PERCENT';
  put EASEQM '09'x  EASEQMY1 '09'x olDWQMYN '09'x olDWQMEZ '09'x olDWQMDF '09'x
      BCDW1MYN '09'x olDW1MEZ '09'x BCMNRS4 '09'x COUNT '09'x PERCENT;
run;

proc freq noprint data=all(where=(ease1m<0));
  tables EASE1M*EASE1MY1*BCDW1MYN*olDW1MEZ*EASEQM*olDWQMYN
         / missing list out=out1;
```

```
  format EASE1M EASE1MY1 BCDW1MYN olDW1MEZ EASEQM olDWQMYN;
  title2 'Year 2 EASE1M missing';
run;
data _null_;
  set out1;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\EASE1M.MISSING.xls';
  if _n_=1 then
  put 'EASE1M' '09'x  'EASE1MY1' '09'x 'BCDW1MYN' '09'x 'BCDW1MEZ' '09'x
'EASEQM' '09'x
      'BCDWQMYN' '09'x 'COUNT' '09'x 'PERCENT';
  put EASE1M '09'x  EASE1MY1 '09'x BCDW1MYN '09'x olDW1MEZ '09'x EASEQM '09'x
      olDWQMYN '09'x COUNT '09'x PERCENT;
run;
%mend skip;
*** HOME VISITS ***;

DATA B; SET habc2.za;

* Rename vars that get recoded, so that we have both old and new values
* available for frequencies *;
  olDWQMEZ=ZADWQMEZ;
  olDW1MEZ=ZADW1MEZ;
  olDWQMYN=ZADWQMYN;
  olDWQMDF=ZADWQMDF;

 if zatype=2; *Keep y2 home visits only*;

*SELF-REPORT FUNCTION PROGRAM CODE;
IF ZADWQMYN=9 AND (ZAMNRS>0 OR ZAMNRS4 IN (1,2)) THEN ZADWQMYN=1;

*CODE FOR EASE OF WALKING 1/4 MILE.  IF EASE LEVEL MISSING, EASE LEVEL
WALKING 1 MILE WAS ASSIGNED. IF NO EASE LEVEL FOR WALKING 1M WAS CODED
AND ZADW1MYN WAS YES, DONT
KNOW, OR MISSING THEN NOT THAT EASY WAS ASSIGNED. IF NO EASE LEVEL FOR
WALKING 1M WAS CODED AND ZADW1MYN WAS NO AND ZADW1MEZ WAS MISSING THEN
SOMEWHAT EASY WAS ASSIGNED.  THE 4 CASES WHO REPORTED DIFFICULTY WERE
RECODED TO NOT THAT EASY FOR QM AND DIFFICULTY FOR 1M;
IF ZADWQMEZ=8 and zadwqmyn ne 8 THEN ZADWQMEZ=2;
IF ZADWQMDF=8 and zadwqmyn ne 8 THEN ZADWQMDF=2;
IF ZADWQMYN IN (0,7,8) AND ZADWQMEZ<0 THEN EASEQM=4;
  ELSE IF ZADWQMYN IN (0,7,8) THEN EASEQM=7-ZADWQMEZ;
IF (ZADWQMYN=0 AND ZADWQMEZ<0) THEN EASEQM=7-ZADW1MEZ;
IF (ZADWQMYN=0 AND ZADWQMEZ<0) AND ZADW1MEZ<0 AND (ZADW1MYN=1 OR ZADW1MYN=8
OR ZADW1MYN<=.z) THEN EASEQM=4;
IF (ZADWQMYN=0 AND ZADWQMEZ<0) AND (ZADW1MYN=0 AND ZADW1MEZ<=.z)
THEN EASEQM=5;
IF ZADWQMYN=1 THEN EASEQM=4-ZADWQMDF;

IF ZADWQMYN=1 AND ZADWQMDF<0 THEN EASEQM=7-ZADWQMEZ;
IF ZADWQMYN=1 AND ZADWQMDF<0 AND ZADWQMEZ<0 THEN EASEQM=2;
IF ZADWQMYN<0 AND ZADWQMDF>0 THEN EASEQM=4-ZADWQMDF;
IF ZADWQMYN<0 AND ZADWQMEZ>0 THEN EASEQM=7-ZADWQMEZ;

if zadwqmyn=8 and zadwqmez=8 then easeqm=4;
IF ZADWQMYN=9 AND ZAMNRS<0 AND (ZAMNRS4<0 OR ZAMNRS4=8) THEN EASEQM=.;
```

```
*CODE FOR EASE OF WALKING 1 MILE. AS SELF-REPORTED WALKING ABILITY IS A KEY
DEPENDENT
MEASURE IN HEALTH AZA, MISSING VALUES WERE RECODED TO NON-MISSING WHENEVER A
REASON
GUESS COULD BE MADE BASED ON OTHER AVAILABLE INFORMATION. SEE BELOW FOR CODE AND
RECODING RULES FOR MISSING VALUES;
IF ZADW1MYN IN (0,1) AND ZADW1MEZ=8 THEN ZADW1MEZ=2;
IF ZADW1MYN=1 THEN EASE1M=0;
IF ZADW1MEZ=3 THEN EASE1M=1;
IF ZADW1MEZ=2 THEN EASE1M=2;
IF ZADW1MEZ=1 THEN EASE1M=3;
*MISSING VALUE RECODES;
IF ZADW1MYN=8 AND (ZADW1MEZ<0 OR ZADW1MEZ=8) THEN EASE1M=1;
IF ZADW1MYN<=.z AND ZADW1MEZ<=.z AND EASEQM=4 THEN EASE1M=0;
IF ZADW1MYN<=.z AND ZADW1MEZ<=.z AND EASEQM=5 THEN EASE1M=1;
IF ZADW1MYN<=.z AND ZADW1MEZ<=.z AND EASEQM=6 THEN EASE1M=2;
IF ZADW1MYN=0 AND ZADW1MEZ<=.z AND EASEQM=4 THEN EASE1M=0;
IF ZADW1MYN=0 AND ZADW1MEZ<=.z AND EASEQM=5 THEN EASE1M=1;
IF ZADW1MYN=0 AND ZADW1MEZ<=.z AND EASEQM=6 THEN EASE1M=2;
IF ZADWQMYN=1 THEN EASE1M=0;

*IN SOME CASES THE AMOUNT OF EASE REPORTED FOR WALKING 1 MILE WAS GREATER THAN
THE AMOUNT OF EASE REPORTED FOR 1/4 MILE.  THE CODE BELOW DOWNGRADES THE EASE
LEVEL REPORTED FOR 1M TO THAT REPORTED FOR 1/4M;
IF EASEQM GT 0 AND ((EASEQM-3) LT EASE1M) THEN DO;
 IF EASEQM LE 3 THEN EASE1M=0; ELSE
 EASE1M=EASEQM-3;
END;
if zadw1myn=8 and zadw1mez in (1,2,3) then ease1m=4-zadw1mez;

*CODE TO CREATE A SUMMARY MEASURE OF SELF-REPORTED WALKING ABILITY. THIS
SCALE WILL ULTIMATELY RANGE FROM 0 TO 9, BUT AT BASELINE IT RANGES FROM
4-9, AS NO ONE HAS DIFFICULTY. THIS SCALE CAN BE CREATED IN TWO WAYS: 1) KEYING
OFF THE RESPONSE TO EASE1M AND ONLY LOOKING AT EASEQM WHEN DIFFICULTY IS
REPORTED FOR 1M OR 2) SUMMING THE RESPONSES TO THE TWO QUESTIONS. I
DID IT BOTH WAYS AND FOUND THE LATTER APPROACH SUPERIOR;

WKAINDEX=EASEQM + EASE1M;


*CODE FOR EASE OF CLIMBING STAIRS;
IF ZADW10YN=9 THEN DO; EASE1F=.; EASE2F=.; END;
*IF ZADW10YN=8 AND (ZADW10EZ<0 OR ZADW10EZ=8) THEN EASE1F=4;
IF ZADW10EZ=8 THEN ZADW10EZ=2;
IF ZADIF=8 THEN ZADIF=2;
EASE1F=7-ZADW10EZ; IF ZADW10EZ<0 THEN EASE1F=7-ZADW20EZ;
IF ZADW10YN=1 THEN EASE1F=4-ZADIF;
IF ZADW10YN=1 AND (ZADIF=8 OR ZADIF<0) THEN EASE1F=2;
IF ZADW10YN=0 AND ZADW10EZ<0 AND ZADW10EZ<0 THEN EASE1F=4;

IF EASE1F=. AND ZADW10YN NE 9 AND ZADW10YN>0 AND
  (ZADW20YN=1 OR ZADW20YN=8 OR ZADW20YN<=.z OR ZADW20YN<=.z)
 THEN EASE1F=4;
IF EASE1F=. AND ZADW20YN=0 AND ZADW20EZ<=.z THEN EASE1F=5;

IF ZADW20YN=1 THEN EASE2F=0;
IF ZADW20EZ=3 THEN EASE2F=1;
```

```
IF ZADW20EZ=2 THEN EASE2F=2;
IF ZADW20EZ=1 THEN EASE2F=3;
IF (ZADW20YN=8 OR ZADW20YN<0)AND (ZADW20EZ<0 OR ZADW20EZ=8) AND EASE1F>0 THEN
EASE2F=1;
IF ZADW20YN<=.z AND ZADW20EZ<=.z AND EASE1F=4 THEN EASE2F=0;
IF ZADW20YN<=.z AND ZADW20EZ<=.z AND EASE1F=5 THEN EASE2F=1;
IF ZADW20YN<=.z AND ZADW20EZ<=.z AND EASE1F=6 THEN EASE2F=2;
IF ZADW20YN=0 AND (ZADW20EZ<=.z OR ZADW20EZ=8) AND EASE1F>0 THEN EASE2F=EASE1F-
4;
IF ZADW10YN=1 THEN EASE2F=0;

IF .z<EASE1F<=3 THEN EASE2F=0; ELSE
IF (EASE1F-3) LT EASE2F THEN EASE2F=EASE1F-3;
if zadw20yn=0 and zadw20ez=8 then ease2f=ease1f-4;

*CODE TO CREATE A SUMMARY MEASURE OF SELF-REPORTED STAIR CLIMBING ABILITY. THIS
SCALE WILL
RANGE FROM 0 TO 9, BUT AT BASELINE IT RANGES FROM 4-9;
CSAINDEX=EASE1F + EASE2F;

*CODE TO CREATE A SUMMARY MOBILITY MEASURE THAT COMBINES THE WALK AND STAIR
INDICIES. AS THE
TWO INDICIES HAD A CORRELATION OF .61 AND ONLY 33% HAD 9''S ON BOTH VERSUS 46%
ON THE WALK
INDEX ALONE;
MOBINDEX=CSAINDEX + WKAINDEX;

*IF ZADW10WX=8 OR ZADW10WX=9 THEN TIRED1F=1;
*IF ZADW10WX=0 THEN TIRED1F=0;
*IF ZADW10WX=1 THEN TIRED1F=1;

LABEL
EASEQM='EASE WALKING 1/4 MILE, 6=VERY EASY'
EASE1M='EASE WALKING 1 MILE, 3=VERY EASY'
WKAINDEX='WALKING ABILITY INDEX, 9=BEST'
/*TIREDQM='GETS TIRED WALKING 1/4 MILE, 1=YES'*/
/*LESSOQM='WALKS 1/4 MILE LESS OFTEN, 1=YES'*/
EASE1F='EASE CLIMBING 1 FLIGHT, 6=VERY EASY'
EASE2F='EASE CLIMBING 2 FLIGHTS, 3=VERY EASY'
CSAINDEX='CLIMBING STAIRS ABILITY INDEX, 9=BEST'
/*TIRED1F='GETS TIRED CLIMBING 1 FLIGHT, 1=YES'*/
/*LESSO1F='CLIMBS STAIRS LESS OFTEN, 1=YES'*/
/*EASE10P='EASE LIFT/CARRY 10 LBS, 6=VERY EASY'*/
/*EASE20P='EASE LIFT/CARRY 20 LBS, 3=VERY EASY'*/
/*LCAINDEX='LIFT/CARRY ABILITY INDEX, 9=BEST'*/
/*LESSO10P='LIFT/CARRY 10 LBS LESS OFTEN, 1=YES'*/
/*EASEUP='EASE RISING FROM CHAIR, 6=VERY EASY'/*
/*EASESCK='EASE STOOPING, 6=VERY EASY'/*
/*EASEHHW='EASE DOING HEAVY WORK, 6=VERY EASY'/*
/*LESSOHW='DOES HEAVY WORK LESS OFTEN, 1=YES'*/
/*DIFFPP='DIFFICULTY PUSHING/PULLING, 1=YES'*/;
RUN;

proc freq data=b;
  tables
         EASEQM*ZADWQMYN*ZADWQMEZ*ZADWQMDF*ZADW1MYN*ZADW1MEZ*ZAMNRS4
         EASE1M*ZADW1MYN*ZADW1MEZ*EASEQM*ZADWQMYN
```

```
         WKAINDEX*EASEQM*EASE1M
         /*TIREDQM*ZADWQMT2*/
         EASE1F*ZADW10YN*ZADW10EZ*ZADW20YN*ZADW20EZ*ZADIF
         EASE2F*ZADW20YN*ZADW20EZ*EASE1F
         CSAINDEX*EASE1F*EASE2F
         /*TIRED1F*ZADW10WX*/
         /*EASE10P*ZADIF10*ZAEZ10LB*ZAD10AMT*ZAD20LBS*ZAEZ20LB*/
         /*EASE20P*ZAEZ20LB*ZAD20LBS*EASE10P*/
         /*LCAINDEX*EASE10P*EASE20P*/
         /*EASEUP*ZADIFSTA*ZADSTAMT*ZAEZSTA*/
         /*EASESCK*ZADIFSCK*ZAEZSCK*ZADSCKAM*/
         /*EASEHHW*ZADIFHW*ZAEZHW*ZADHWAMT*/
       / MISSING LIST;
  format EASEQM ZADWQMYN ZADWQMEZ ZADWQMDF ZADW1MYN ZADW1MEZ ZAMNRS4
         EASE1M WKAINDEX ZADWQMT2
         EASE1F ZADW10YN ZADW10EZ ZADW20YN ZADW20EZ ZADIF
         EASE2F CSAINDEX /*TIRED1F*/ ZADW10WX;
  title4 'Home visits';
run;

data y1;
  set daf.y1calc(keep=habcid easeqm ease1m ease1f ease2f ease10p ease20p easeup
easesck easehhw);
run;
data all;
  merge y1(in=iny1
           rename=(easeqm=easeqmy1
                   ease1m=ease1my1
                   ease1f=ease1fy1
                   ease2f=ease2fy1
                   ease10p=ease10y1
                   ease20p=ease20y1
                   easeup=easeupy1
                   easesck=easescy1
                   easehhw=easehhy1))
         b(in=iny2);
  by habcid;
  if iny2;
run;
%macro skip;
data all1;
  set all;
  if olDWQMEZ in (8,9) or olDWQMDF in (8,9) or (olDWQMYN=0 and olDWQMEZ<0);
data all1; set all1;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list1.home.xls';
  if _n_=1 then
  put 'habc ID' '09'x 'EASEQM' '09'x 'EASEQMY1' '09'x 'ZADWQMYN' '09'x
'ZADWQMEZ' '09'x 'ZAMNRS' '09'x 'ZADWQMDF' '09'x
      'ZADW1MYN' '09'x 'ZADW1MEZ' '09'x 'ZAMNRS4';
  put habcid '09'x EASEQM '09'x EASEQMY1 '09'x olDWQMYN '09'x olDWQMEZ '09'x
ZAMNRS '09'x olDWQMDF '09'x
      ZADW1MYN '09'x olDW1MEZ '09'x ZAMNRS4;
run;

data all2;
  set all;
```

```
  if ZADW1MYN=8 or olDW1MEZ=8 or EASE1M<0;
data all2; set all2;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list2.home.xls';
  if _n_=1 then
  put 'habc ID' '09'x 'EASE1M' '09'x 'EASE1MY1' '09'x 'ZADW1MYN' '09'x
'ZADW1MEZ' '09'x 'EASEQM' '09'x 'ZADWQMYN';
  put habcid '09'x EASE1M '09'x EASE1MY1 '09'x ZADW1MYN '09'x olDW1MEZ '09'x
EASEQM '09'x olDWQMYN;
run;

data all3;
  set all;
  if ZADW10YN in (8,9) or ZADW20YN=8 or EASE1F<0;
data all3; set all3;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list3.home.xls';
  if _n_=1 then
  put 'habc ID' '09'x 'EASE1F' '09'x 'EASE1FY1' '09'x 'ZADW10YN' '09'x
'ZADW10EZ' '09'x 'ZADW20YN' '09'x
      'ZADW20EZ' '09'x 'ZADIF';
  put habcid '09'x EASE1F '09'x EASE1FY1 '09'x ZADW10YN '09'x ZADW10EZ '09'x
ZADW20YN '09'x
      ZADW20EZ '09'x ZADIF;
run;

data all4;
  set all;
  if ZADW20YN=8 or ZADW20EZ=8 or EASE2F<0;
data all4; set all4;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\list4.home.xls';
  if _n_=1 then
  put 'habc ID' '09'x 'EASE2F' '09'x 'EASE2FY1' '09'x 'ZADW20YN' '09'x
'ZADW20EZ' '09'x 'EASE1F';
  put habcid '09'x EASE2F '09'x EASE2FY1 '09'x ZADW20YN '09'x ZADW20EZ '09'x
EASE1F;
run;

proc freq noprint data=all(where=(easeqm<0));
  tables EASEQM*EASEQMY1*olDWQMYN*olDWQMEZ*olDWQMDF*ZADW1MYN*olDW1MEZ*ZAMNRS4
         / missing list out=out1;
  format EASEQM EASEQMY1 olDWQMYN olDWQMEZ olDWQMDF ZADW1MYN olDW1MEZ ZAMNRS4;
  title2 'Year 2 EASEQM missing';
run;
data _null_;
  set out1;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\EASEQM.MISSING.home.xls';
  if _n_=1 then
  put 'EASEQM' '09'x  'EASEQMY1' '09'x 'ZADWQMYN' '09'x 'ZADWQMEZ' '09'x
'ZADWQMDF' '09'x
      'ZADW1MYN' '09'x 'ZADW1MEZ' '09'x 'ZAMNRS4' '09'x 'COUNT' '09'x 'PERCENT';
  put EASEQM '09'x  EASEQMY1 '09'x olDWQMYN '09'x olDWQMEZ '09'x olDWQMDF '09'x
      ZADW1MYN '09'x olDW1MEZ '09'x ZAMNRS4 '09'x COUNT '09'x PERCENT;
run;
```

```
proc freq noprint data=all(where=(ease1m<0));
  tables EASE1M*EASE1MY1*ZADW1MYN*olDW1MEZ*EASEQM*olDWQMYN
         / missing list out=out1;
  format EASE1M EASE1MY1 ZADW1MYN olDW1MEZ EASEQM olDWQMYN;
  title2 'Year 2 EASE1M missing';
run;
data _null_;
  set out1;
  file 'e:\lakin\habc_sas\programs\fran\calculated
variables\year2\datasets\EASE1M.MISSING.home.xls';
  if _n_=1 then
  put 'EASE1M' '09'x  'EASE1MY1' '09'x 'ZADW1MYN' '09'x 'ZADW1MEZ' '09'x
'EASEQM' '09'x
      'ZADWQMYN' '09'x 'COUNT' '09'x 'PERCENT';
  put EASE1M '09'x  EASE1MY1 '09'x ZADW1MYN '09'x olDW1MEZ '09'x EASEQM '09'x
      olDWQMYN '09'x COUNT '09'x PERCENT;
run;
%mend skip;

DATA CALC.SRFNC_Y2;
  SET A(KEEP=habcID EASEQM EASE1M WKAINDEX
            EASE1F EASE2F CSAINDEX /*TIRED1F*/ EASE10P EASE20P
            LCAINDEX EASEUP EASESCK EASEHHW )
      B(KEEP=habcID EASEQM EASE1M WKAINDEX
            EASE1F EASE2F CSAINDEX /*TIRED1F*/);
  by habcid;
  FORMAT EASE10P EASE1F EASE20P EASE2F EASEHHW EASEQM EASESCK EASEUP EASE1M
CSAINDEX LCAINDEX SPMISS.
         /*TIRED1F YNDK.*/ ;
RUN;
proc contents data=calc.srfnc_y2;
 title4 'Final dataset';
run;
```

Appendix IX
20-Meter Walk Calculated Variables

Investigator Name: Eleanor Simonsick

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y2R20MSD	Fast walking speed (m/sec) over 20m	Walking speed (m/sec) during the fast-paced 20 meter walk	Y2R20MSD=20/B320TIM2	If B320TIM2=0*, then Y2R20MSD=.M; if B320TIM2≤.z, then Y2R20MSD=.A	m/sec
Y2U20MSD	Usual walking speed (m/sec) over 20m	Walking speed (m/sec) during the usual pace 20 meter walk	Y2U20MSD=20/B320TIM1	If B320TIM1=0*, then Y2U20MSD=.M; if B320TIM1≤.z, then Y2U20MSD=.A	m/sec

*When a participant tried but was unable to complete either the usual pace or fast pace walk, both the time variable (B320TIM1 or B320TIM2, respectively) and the number of steps variable (B320STP1 or B320STP2, respectively) were coded as 0.

```
data calc.mw20(keep=habcid y2u20msd y2r20msd);
*changing over to use CURRENT instead of HABC2;
  set /*habc2.b3*/ current.y2clnvis(keep=habcid b320tim1 b320tim2);
b320tm1s=b320tim1;
b320tm2s=b320tim2;
if b320tm1s>0 then y2u20msd=20/b320tm1s;
   else if b320tm1s=0 then y2u20msd=.M;
   else y2u20msd=.A;
if b320tm2s>0 then y2r20msd=20/b320tm2s;
   else if b320tm2s=0 then y2r20msd=.M;
   else y2r20msd=.A;

label y2u20msd='Usual walking speed over 20 meters'
      y2r20msd='Rapid walking speed over 20 meters';
run;
```

Documentation for Reading Center Database
(Y2Read, BMDNotes, DXREAN12, Y2GlycemKcal)

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YEAR 2 READING CENTER DATA

1. General description

The year 2 reading center file (Y2READ) contains reading center results of enrolled participants. Each data record contains results from the following Reading Centers:

Reading Center	N
DXA whole body BMD	2775
Food frequency questionnaire	2732
Isokinetic strength (KinCom)	2339
Ultrasound	2778

Data from Health ABC biospecimen analyses has now been moved to the BIOSPECIMENS dataset, which contains data for all years. Additional Food Frequency Questionnaire (FFQ) data related to glycemic load and total kcal derived from various food groups, which was obtained from further analysis of the FFQ data, are in a separate dataset called Y2GlycemKcal.

Please refer to the respective Health ABC reading center variable lists (see bookmarks) for detailed descriptions of the variables included.

In addition to the Year 2 DXA data and the Year 1-2 DXA change variables found in Y2Read, there is a second DXA dataset called DXREAN12. This dataset should only be used for longitudinal, repeated measure analysis. A more complete description of this dataset can be found on page 5.

2. Cross reference of dataset names with exact source

A complete list of variable names can be found under the "Proc Contents for All Datasets" link (search under Y2READ or Y2GlycemKcal) or by searching the Datadict file (by database). Variable names can also be found on the Reading Center Variable Lists. NOTE: SOME READING CENTERS USE THE SAME VARIABLE NAMES EVERY YEAR. THE ANALYST IS REMINDED TO RENAME VARIABLES BEFORE MERGING WITH OTHER YEARS AS NECESSARY.

3. Dataset structure and contents

The Y2READ and Y2GlycemKcal files contain a single observation per participant.

Key variables:

HABCID	HABC Enrollment ID without the 2-letter prefix
SITE	HABC Clinic site: 1=Memphis; 2=Pittsburgh*
ACROSTIC	HABC Acrostic

* Must link to Health ABC participant history file (PH) to add this variable.

4. Condition of data

a. DXA Whole Body and Hip Data

A minor change has been made to the correction factor for fat-free mass variables for this release (version 2.22). Rather than multiplying by 0.964, the correction has been changed to 0.946 to match the value currently being used by NHANES. DXA data for all years have been recalculated and re-released simultaneously (October 2005).

A. The Memphis whole body array BMD variables for both the total body and subregions have been corrected due to a shift in the whole body phantom. The correction was first applied to the 12-15-00 dataset in an additive manner to only total body BMD. The correction has since been changed to multiplicative to allow application to subregions and to correspond to the correction to BMC detailed in section B below.

   The correction has been applied to all Memphis whole body scans performed from 03-04-1999 through 06-15-2000, inclusive. All whole body BMD variables (total and subregion) were multiplied by 1.023.

B. The Memphis whole body array BMC variables for both the total body and subregions have been corrected due to a shift in the whole body phantom. This corrected BMC was used to calculate the FFM minus BMC (the CTOTLEAN variable) in the corrections noted in sections C and D below.

   The correction has been applied to all Memphis whole body scans performed from 03-04-1999 through 06-15-2000, inclusive. All whole body BMC variables (total and subregion) were multiplied by 1.023.

C. It has been determined that the Pittsburgh DXA machine overestimates total mass relative to mass measured by a scale. The following correction has been applied to this dataset. It is an updated version of the correction in Memo #1542 dated 11-29-2000.

   The correction was applied as follows:

   1. The correction has two time intervals with multiplicative corrections to TOTFAT, TOTLEAN, and TOTMASS. In the following equations, "VAR" stands for TOTFAT, TOTLEAN, and TOTMASS:

      From 4-28-97 through 10-12-98: adjusted VAR = 0.983 * VAR
      From 10-13-98 through 7-5-00: adjusted VAR = 0.979 * VAR

   2. The CTOTLEAN correction was calculated as follows:
      adjusted CTOTLEAN = adjusted TOTLEAN - WTOTBMC

   3. The corrections in 1 and 2 were also applied to the corresponding variables in all subregions.

D. It has been determined that for both Memphis and Pittsburgh, DXA overestimates fat-free mass compared to criterion methods. Consequently DXA also underestimates fat mass and percent fat. The following correction has been applied to this dataset. It is an updated version of the correction in Memo #1542 dated 11-29-2000.

After the above corrections in A, B, and C were applied, the following lean mass correction was applied:

1. Multiply all fat-free mass variables by 0.946:
   New fat-free mass = 0.946 x fat-free mass
   New TOTLEAN = 0.946 x TOTLEAN
   (This is the correction factor that was changed in version 2.22

2. Recalculate all fat mass variables by subtracting the fat-free mass from the total mass of the region of interest:
   New fat mass = total mass – new fat-free mass
   New TOTFAT = TOTMASS – new TOTLEAN

3. Recalculate all lean soft tissue mass variables by subtracting the BMC from the new fat-free mass:
   New lean soft tissue mass = new fat-free mass – BMC
   New CTOTLEAN = New TOTLEAN – WTOTBMC

4. Recalculate all percent fat variables by dividing the new fat mass by the total mass:
   New percent fat = (new fat mass / total mass) x 100
   New TOTPF = (new TOTFAT / TOTMASS) x 100

5. The DXA scan subregions (e.g., left leg, trunk), were corrected by applying the same steps 1-4

E. Read Appendix I: Whole Body Subregions: Artifacts, Exclusions and Substituted Values. **The whole body artifact corrections have already been applied to this dataset release by the CC.**

DXA Hip Data

The following Total Hip BMD correction factors have been determined from the Hologic hip phantom results. Only Total Hip is corrected because this Region Of Interest is deemed most reliable from the hip phantom. **The following corrections have already been applied to this dataset release by the CC.**

A. **Memphis correction**: three time intervals; the first has no correction, the next 2 have additive corrections.

From 4-7-97 through 8-1-97:	No correction.
From 8-2-97 through 3-15-99:	Subtracted 0.0087 from the original TOTHIP BMD.

From 3-16-99 through 6-15-00:	Subtracted 0.0039 from the original TOTHIP BMD.

B. **Pittsburgh correction**: two time intervals; the first has no correction, the second has additive correction.

From 4-7-97 through 5-4-99:	No correction.
From 5-5-99 through 7-5-00.	Subtracted 0.0036 from the original TOTHIP BMD.

DXA data for longitudinal analysis

Occasionally the region of interest (ROI) must be adjusted during follow up because of incident changes or inability to position the participant exactly the same for a follow-up scan as at baseline. This requires reanalysis of the preceding scans using the new ROI before meaningful change variables can be created. (For example, L1 fractures after Y1, requiring reanalysis of Y1 and subsequent scans to delete L1 from the total BMD). All change variables (see DXA Reading Center variable list) were created using the reanalyzed data, where applicable. However, the year-by-year DXA data shown in each data analysis file uses the data as originally analyzed, since this is the most correct for cross-sectional analysis. Thus, hand calculation of the change variables from Year 1-Year 2 using the Y2Read and Y1Read datasets may give slightly different values for some participants from what is supplied by the DXA Reading Center in Y2Read. Analysts are strongly encouraged to use the change variables supplied in each dataset, rather than recreating these variables.

Previous versions of the data analysis files did not give the reanalyzed values because they are not the best to use for cross-sectional analysis. However, in certain cases, particularly repeated measure analysis, it is necessary to use the individual reanalyzed values. Therefore, the DXA data are now given in two places: Y2Read, which gives the Year 2 data as analyzed in Year 2 along with the change variables utilizing any reanalysis of baseline for Year 2 ROI changes, and DXREAN12, which gives both the Y2 data (exactly as shown in Y2Read) and the reanalyzed Year 1 data. The DXREAN12 dataset is in a separate folder called "DXA datasets for Repeated Measure Analysis." The baseline data from this folder should only be used for these rare cases where the individual year-by-year values, rather than a calculated change variable, are used in a repeated measures model.

The DXREAN12 dataset has a single record per participant with unique variable names for each year (e.g.,TOTMASS2 and TOTMASS1 for Year 2 and Year 1 total body mass, respectively). For most repeated measures analyses it will be necessary to reorganize the file to multiple records per participant (one record per participant-year) using an ARRAY statement. **Again, please remember that this file should only be used for repeated measures analysis. All change variables for ordinary longitudinal analyses have already been created and can be found in Y2Read.**

b. FFQ Data

As of version 2.22, 34 new dietary micronutrient variables, a Healthy Eating score variable (H_Eat) and a daily servings of whole grains variable (WHOLGRAN) have been calculated by the Food Frequency Reading Center and added to the dataset. These values were calculated for Ancillary Study #AS4-65, and questions about these data should be referred to Steve Kritchevsky (Skritche@wfubmc.edu). They are listed in the FFQ Reading Center Variable list

Four glycemic index and glycemic load summary variables have been calculated by the Food Frequency Reading Center: GL_GLUC, GL_BREAK, GI_GLUC, and GI_BREAK. In addition, three protein-source variables were added in the previous dataset: FFQVEGPR, FFQANMPR, and FFQTOTPR. These variables are documented in the Food Frequency Reading Center variable list below.

In addition, daily glycemic load values (glucose scale) have been calculated for each of the food items. These values, along with the four summary glycemic index and load variables above, are included in a separate dataset Y2GlycemKcal, for those who may wish to break these down in other ways. Additional new variables related to kcal derived from each food group, have been added to this dataset as of version 2.3, and the name changed from Y2Glycem to Y2GlycemKcal for clarity. All of these glycemic load and kcal variables have been renamed to match as closely as possible the variable names from the original FFQ data. For example, the glycemic load and kcal variables corresponding to the FFQ question about fresh apples or pears (B2APPL) are LOADAPPL and KCALAPPL, respectively. Where there was not a one-to-one match with a single FFQ question, new variable names were created. The analyst is cautioned to use these data in conjunction with the annotated FFQ form to be sure they understand what each variable encompasses.

The Food Frequency Questionnaire variables were recalculated by the Food Frequency Reading Center on 4/27/01 using fully edited data. A number of edit report variables warning of possible errors have been provided by the Reading Center (see FFQ Reading Center variable list). A summary of the number of each type of edit is also included behind the FFQ Reading Center Variable list. Unfortunately, the Reading Center reports that there is no real consensus among researchers about appropriate exclusion criteria for FFQs. Harvard uses calorie boundaries (excluding men below 800 kcal and women below 500; men above 4200 kcal and women above 3500); this would result in the exclusion of 3.5% of the 2732 participants who completed a FFQ.

c. KinCom Data

In addition, the lever arm length for HA1879 was corrected from 3 cm to 33 cm, using the information recorded on the clinic form. This changes the values of KCTMIN, KCTMAX, KCTMEAN, and KCTSTD from impossibly low values to usable data.

Nineteen participants had isokinetic strength testing but their electronic data were lost (see Appendix III: Permanently Lost Reading Center Files). For all of these participants but one (HA1290), there were form data backing up the electronic data. As of version

2.23, these values have been substituted for KCTMAX, KCTMEAN, KCSIDE, TRIAL, and KCSTID. All other KinCom data for these 18 participants have been set to .M. Note that the algorithm used to process the electronic data is a little different from the algorithm used by the KinCom software (tails of the curve are removed before calculating forces and torques), so KCTMEAN will tend to be a little higher from the form data than from the electronic data.

d. Ultrasound

On occasion, the Sahara computer did not save an ultrasound measurement. Ultrasound data were collected on the Year 2 Clinic Visit Workbook form as a backup, and these data were substituted for data from the Sahara computer when necessary. In addition, when the ultrasound data were collected in the home, the data were often hand entered into the computer from the form upon return to the clinic (the computer was not taken into the home).

When participants have at least one useable scan, unusable (e.g., asterisked) scans were dropped and remaining scans were averaged using the following algorithm: for those with 2 valid values the mean was used; for those with 3 valid values, the mean of the closest two values was used (if the values are equally spaced, e.g., 64, 68, 72, then the mean of all three was used; for those participant with 4 or more valid values the mean of all values was used. If no scans were useable, the participant's data were set to .T (see Special Missing Values Codes, page 8).

5. Dataset index formulation and key variable mapping

The Y2READ, DXREAN12, and Y2GlycemKcal files are sorted by HABCID, which is a unique identifier for each participant.

6. General strategies for manipulating and merging the data

Because the Health ABC datasets are sorted by Health ABC Enrollment ID, the HABCID variable is most useful for merging with other datasets.

7. Permanently lost Reading Center data

Every effort was made to reconcile the Reading Center databases with the clinic visit workbook data, to ensure that all measurements made on Health ABC participants that should have been sent to and analyzed by a Reading Center did reach them and became part of that Reading Center's database. As Clinic Visit Workbook data were edited, the tracking variables for Reading Center measurements were cleaned up, and multiple iterations of the reconciliation between Reading Center databases and the clinic visit data were required. Where holes in the Reading Center databases were found, the clinics were queried to try to locate the electronic or even paper version of missing measurements. Many of the missing files listed in the first version (version 2.0) of this dataset have now

been found. A list of participants with permanently lost data and the affected Reading Center database can be found in Appendix III.

8. Special Missing Value Codes

SAS allows for stratification of missing values. The following missing values have been assigned:

. =’Missing Form’
.A='A:Not Applicable'
.M='M:Missing'
.N='N:Not Required'
.T='T:Missing Due to Technical Problems’ (reading center data only)
.U=’Unacceptable’ (DXA data only)

Description

. : Missing Form
Used when a value is missing because the entire form has not been entered.

A: Not Applicable
Used when a value is missing but the value is not required (due to simple skip pattern logic)

M:Missing
Used to flag missing values when the value is required (i.e., true missing values).

N:Not Required
Used when a value is missing but the value is not required (not due to simple skip pattern logic). For example, for checkbox variables which are “Check all that apply”: each one, individually, is not required. In these cases, a summary calculated variable (not included in the dataset) was used to edit missing responses. Some variables whose skip pattern logic is non-standard (i.e., the skip pattern involves several variables and forms) also have .N flags when missing, whether or not a response was required due to the skip pattern.

T:Missing Due to Technical Problems

Used when a value is missing from the Reading Center dataset due to technical difficulties. An explanation of when this value has been assigned can be found under Condition of Data for each Reading Center (pages 3-7).

U:Unacceptable

Used with DXA data when the whole scan has been reviewed as unacceptable.

General Strategies for Using Special Missing Values

In SAS, when using special missing values in logical expressions, the missing value is no longer only equal to '.' To express a value not equal to missing, the code should be written >.z or alternately: gt .z. .Z is the greatest value of missing available in SAS. To express a value equal to missing, the code should be written: <= .z or alternately: le .z

Appendix I

DXA Whole Body Subregions: Artifacts, Exclusions and Substituted Values

From time to time various artifacts will appear in the subregions of the whole body, which can lead to unreliable results for the measurement of bone mineral or soft tissue. In some cases these values will need to be excluded from further analysis or they may be corrected (for example, by substituting the values from the contralateral side). This appendix summarizes some of the situations that can arise and how these exceptions are handled in preparing the DXA Reading Center.

The DXA Whole Body Reading Center dataset contains the whole body variables. See DXA Whole Body Reading Center Variable List behind tab 3 for the variable names and labels. All variables starting with the letter "A" contain the tissue and severity codes. There can be up to two artifacts coded for each region of interest (ROI). The tissue and severity codes are provided for documentation only. **All substitutions and recalculations have already been done.** The appropriate variables contain the actual values to be used in analysis (original, substituted, or recalculated) or a missing code.

An additional file called BMDNotes is provided to give a narrative description of each artifact (see Appendix II). See the SAS Contents Procedure listing provided for this file for variable names and labels. The appropriate variables contain the narrative description, tissue code, and severity code for each artifact.

The tissue codes, severity codes, substituted and recalculated values, and missing codes are described below.

<u>Artifacts that make the entire scan unacceptable</u>

This is a special situation, such as motion over the entire scan, that makes it difficult to isolate the artifact to a specific subregion. In this case, there are no tissue or severity codes and all total and subregion variables are coded missing value .U.

<u>Artifacts may affect bone, soft tissue or both</u>

Artifacts are classified by the Reading Center according to whether they affect the bone only (code = T1), soft tissue only (code = T2), or both (code = T3). These assignments are based on empirical evidence where possible. If this is not possible, the assignment is based on theoretical grounds. The variables containing the tissue codes are assigned at the level of the whole body subregion that is affected; not at the level of the total body.

<u>Artifacts may be of varying severity</u>

Artifacts are also classified by the Reading Center according to their severity. The variables containing the severity codes are assigned at the level of the whole body subregion that is affected; not at the level of the total body.

Artifacts may be negligible, having no significant effect (code = S1), in which case the effect of the artifact on the measurement can be ignored.

An artifact may have a significant effect on the values measured for the subregion in which it is found (code = S2). In this case the values for the subregion have been set to missing and replaced with missing value .T.

The artifact may be more severe and have a significant effect on both the subregion and the total ROI whole body result (code = S3). In this case the values for the subregion will be set to missing and replaced with missing value T. The values for the total region of interest will also be set to missing and replaced with missing value .T **unless** the total region of interest result can be recalculated as described in the next section below.

<u>Artifact can be corrected by substituting values from contralateral side</u>

Where possible, unilateral artifacts in the arm, leg, or rib (bone mineral only for rib because soft tissue artifacts in the ribs are part of the trunk ROI and there is no contralateral side to substitute) of severity grade S3 will be corrected by substituting the measurement results for the affected tissue type from the contralateral side. Substitution may be for the bone only (T1 code), soft tissue only (T2 code) or both (T3 code), except for rib as noted above. When contralateral substitution is performed, the results for the total region of interest **may** or **may not** be recalculated. The total ROIs are only recalculated if none of the component subregions are missing; e.g., there may be a leg or arm contralateral substitution, but if the pelvis is also set to .T the total will not be recalculated and will be set to the missing value .T. In practice, the total ROIs usually cannot be recalculated despite contralateral substitution, due to one or more subregions remaining missing.

If contralateral substitution results in all subregions having valid values, the recalculated total ROI values are reported in the reading center dataset. No further adjustment is needed.

Note that contralateral substitutions are only made for the purpose of recalculating the total ROI values. All subregion ROI variables retain the missing values.

An example: Suppose a scan has only one artifact: an amputation of the right leg resulting in the artifact code of T3_S3 for the right leg ROI. The reading center dataset will contain the missing value .T for the right leg ROI (this is the subregion ROI) and recalculated values for the total ROIs, in which the left leg values have been substituted for the right leg values.

Another example: Suppose a scan has only one artifact: a right hip prosthesis resulting in the artifact code of T3_S3 for the pelvis and right leg because the artifact extends into both regions. The reading center dataset will contain the missing value .T for the right leg ROI and pelvis ROI (these are the subregion ROIs) and the missing value .T for the total ROIs, because there is no contralateral substitution for the pelvis.

Actions for each specific case

Tx_S1: No action is necessary. No changes are made.

T1_S2: The bone (area, BMC, BMD) and Lean+BMC values in the affected subregion(s) are set to missing. The total results are not recalculated; the original total ROI results from the scan are retained.

T2_S2: The Fat, Lean, and Lean+BMC values in the affected subregion(s) are set to missing. The total results are not recalculated; the original total results from the scan are retained.

T3_S2: All values for the affected subregion(s) are set to missing. The total results are not recalculated; the original total results from the scan are retained.

T1_S3: The bone (area, BMC, BMD) and Lean+BMC values in the affected subregion(s) are set to missing. Values from unaffected subregions are retained for subregional analysis. To determine if the total ROIs have been substituted and recalculated or set to missing, see section above entitled "Artifact can be corrected by substituting values from contralateral side."

T2_S3: The Fat, Lean, Lean+BMC values in the affected subregion(s) are set to missing. Values from unaffected subregions are retained for subregional analysis. To determine if the total ROIs have been substituted and recalculated or set to missing, see section above entitled "Artifact can be corrected by substituting values from contralateral side."

T3_S3: All values for the affected subregion(s) are set to missing. Values from unaffected subregions are retained for subregional analysis. To determine if the total ROIs have been substituted and recalculated or set to missing, see section above entitled "Artifact can be corrected by substituting values from contralateral side."

Appendix II
BMDNotes

General description

The BMDNotes file contains a series of 10 text variables that provide the narrative details, tissue code and severity code for each whole body artifact. This file will be of little general interest to investigators other than the DXA and Body Composition Working Group, so it was not included in Y3Read to save space. However it is available as a separate file (BMDNotes).

To link observations in BMDNotes to the corresponding observations in Y3Read, merge on the variables HABCID, WBDATE, and WBMODE.

Cross reference of dataset names with exact source

A PDF listing of the SAS proc contents printout for all SAS datasets can be found under the “Proc Contents for All Datasets” link. Variable names can also be found in the Reading Center Variable Lists (tab 3).

Dataset structure and contents

The BMDNotes file contains a single observation per participant.

Appendix III
Permanently Lost Reading Center Files

HABC Enrollment ID#	Reading Center Database	Problem
HA1290	KinCom	Apparently not saved

HABC READING CENTER YEAR 2 VARIABLE LIST
DXA WHOLE BODY BMD DATA

Variable Name	Variable Description	Variable Label	Value Label
AHEAD1	Head tissue/severity code1	Head T_S code 1	Tx_Sy, where x=1: bone only x=2: soft tissue only x =3: both y=1: negligible y=2: affects subregion only y=3: affects whole scan
AHEAD2	Head tissue/severity code2	Head T_S code 2	
ALARM1	Left arm tissue/severity code1	Left arm T_S code 1	
ALARM2	Left arm tissue/severity code2	Left arm T_S code 2	
ALLEG1	Left leg tissue/severity code1	Left leg T_S code 1	
ALLEG2	Left leg tissue/severity code2	Left leg T_S code 2	
ALRIBS1	Left ribs tissue/severity code1	Left ribs T_S code 1	
ALRIBS2	Left ribs tissue/severity code2	Left ribs T_S code 2	
ALSPINE1	Lumbar spine tissue/severity code1	Lumbar spine T_S code 1	
ALSPINE2	Lumbar spine tissue/severity code2	Lumbar spine T_S code 2	
APELVIS1	Pelvis tissue/severity code1	Pelvis T_S code 1	
APELVIS2	Pelvis tissue/severity code2	Pelvis T_S code 2	
ARARM1	Right arm tissue/severity code1	Right arm T_S code 1	
ARARM2	Right arm tissue/severity code2	Right arm T_S code 2	
ARLEG1	Right leg tissue/severity code1	Right leg T_S code 1	
ARLEG2	Right leg tissue/severity code2	Right leg T_S code 2	
ARRIBS1	Right ribs tissue/severity code1	Right ribs T_S code 1	
ARRIBS2	Right ribs tissue/severity code2	Right ribs T_S code 2	
ATSPINE1	Thoracic spine tissue/severity code1	Thoracic spine T_S code 1	
ATSPINE2	Thoracic spine tissue/severity code2	Thoracic spine T_S code 2	
CHEADLEA	Head lean, without BMC	Head lean	gm
CLARMLEA	Left arm lean, without BMC	Left arm lean	gm
CLLEGLEA	Left leg lean, without BMC	Left leg lean	gm
CRARMLEA	Right arm lean, without BMC	Right arm lean	gm
CRLEGLEA	Right leg lean, without BMC	Right leg lean	gm
CTOTLEAN	Total lean, without BMC	Total lean	gm
CTRNKLEA	Trunk lean, without BMC	Trunk lean	gm
DCHEAD12	Y2-1 Change Head Lean only	Y2-1 change Head Lean only	gm
DCLARM12	Y2-1 Change L Arm Lean only	Y2-1 change L Arm Lean only	gm
DCLEAN12	Y2-1 Change Total Whole Body Lean	Y2-1 Change Total WBody Lean	gm
DCLLEG12	Y2-1 Change L Leg Lean only	Y2-1 change L Leg Lean only	gm
DCRARM12	Y2-1 Change R Arm Lean only	Y2-1 change R Arm Lean only	gm
DCRLEG12	Y2-1 Change R Leg Lean only	Y2-1 change R Leg Lean only	gm

Variable Name	Variable Description	Variable Label	Value Label
DCTRNK12	Y2-1 Change Trunk Lean only	Y2-1 change Trunk Lean only	gm
DFAT12	Y2-1 Change Total Whole Body Fat	Y2-1 Change Total WBody Fat	gm
DHEADA12	Y2-1 Change Head Area	Y2-1 change Head Area	cm^2
DHEADC12	Y2-1 Change Head Bone Mineral Content	Y2-1 change Head BMC	gm
DHEADD12	Y2-1 Change Head Bone Mineral Density	Y2-1 change Head BMD	gm/cm^2
DHEADF12	Y2-1 Change Head Fat	Y2-1 change Head Fat	gm
DHEADL12	Y2-1 Change Head Fat Free Mass	Y2-1 change Head FFM	gm
DLARMA12	Y2-1 Change L Arm Area	Y2-1 change L Arm Area	cm^2
DLARMC12	Y2-1 Change L Arm Bone Mineral Content	Y2-1 change L Arm BMC	gm
DLARMD12	Y2-1 Change L Arm Bone Mineral Density	Y2-1 change L Arm BMD	gm/cm^2
DLARMF12	Y2-1 Change L Arm Fat	Y2-1 change L Arm Fat	gm
DLARML12	Y2-1 Change L Arm Fat Free Mass	Y2-1 change L Arm FFM	gm
DLEAN12	Y2-1 Change Total Whole Body Fat Free Mass	Y2-1 Change Total WBody FFM	gm
DLLEGA12	Y2-1 Change L Leg Area	Y2-1 change L Leg Area	cm^2
DLLEGC12	Y2-1 Change L Leg Bone Mineral Content	Y2-1 change L Leg BMC	gm
DLLEGD12	Y2-1 Change L Leg Bone Mineral Density	Y2-1 change L Leg BMD	gm/cm^2
DLLEGF12	Y2-1 Change L Leg Fat	Y2-1 change L Leg Fat	gm
DLLEGL12	Y2-1 Change L Leg Fat Free Mass	Y2-1 change L Leg FFM	gm
DLRIBA12	Y2-1 Change L Ribs Area	Y2-1 change L Ribs Area	cm^2
DLRIBC12	Y2-1 Change L Ribs Bone Mineral Content	Y2-1 change L Ribs BMC	gm
DLRIBD12	Y2-1 Change L Ribs Bone Mineral Density	Y2-1 change L Ribs BMD	gm/ cm^2
DLSPIA12	Y2-1 Change Lumbar Spine Area	Y2-1 change Lumbar Spine Area	cm^2
DLSPIC12	Y2-1 Change Lumbar Spine Bone Mineral Content	Y2-1 change Lumbar Spine BMC	gm
DLSPID12	Y2-1 Change Lumbar Spine Bone Mineral Density	Y2-1 change Lumbar Spine BMD	gm/ cm^2
DMASS12	Y2-1 Change Total Whole Body Mass	Y2-1 Change Total WBody Mass	gm
DPELVA12	Y2-1 Change Pelvis Area	Y2-1 change Pelvis Area	cm^2
DPELVC12	Y2-1 Change Pelvis Bone Mineral Content	Y2-1 change Pelvis BMC	gm
DPELVD12	Y2-1 Change Pelvis Bone Mineral Density	Y2-1 change Pelvis BMD	gm/cm2

Variable Name	Variable Description	Variable Label	Value Label
DPF12	Y2-1 Change Total Whole Body Percent Fat	Y2-1 Change Total WBody %Fat	
DRARMA12	Y2-1 Change R Arm Area	Y2-1 change R Arm Area	cm^2
DRARMC12	Y2-1 Change R Arm Bone Mineral Content	Y2-1 change R Arm BMC	gm
DRARMD12	Y2-1 Change R Arm Bone Mineral Density	Y2-1 change R Arm BMD	gm/cm^2
DRARMF12	Y2-1 Change R Arm Fat	Y2-1 change R Arm Fat	gm
DRARML12	Y2-1 Change R Arm Fat Free Mass	Y2-1 change R Arm FFM	gm
DRLEGA12	Y2-1 Change R Leg Area	Y2-1 change R Leg Area	cm^2
DRLEGC12	Y2-1 Change R Leg Bone Mineral Content	Y2-1 change R Leg BMC	gm
DRLEGD12	Y2-1 Change R Leg Bone Mineral Density	Y2-1 change R Leg BMD	gm/cm^2
DRLEGF12	Y2-1 Change R Leg Fat	Y2-1 change R Leg Fat	gm
DRLEGL12	Y2-1 Change R Leg Fat Free Mass	Y2-1 change R Leg FFM	gm
DRRIBA12	Y2-1 Change R Ribs Area	Y2-1 change R Ribs Area	cm^2
DRRIBC12	Y2-1 Change R Ribs Bone Mineral Content	Y2-1 change R Ribs BMC	gm
DRRIBD12	Y2-1 Change R Ribs Bone Mineral Density	Y2-1 change R Ribs BMD	gm/cm^2
DTRNKC12	Y2-1 Change Trunk Bone Mineral Content	Y2-1 change Trunk BMC	gm
DTRNKF12	Y2-1 Change Trunk Fat	Y2-1 Change Trunk Fat	gm
DTRNKL12	Y2-1 Change Trunk Fat Free Mass	Y2-1 Change Trunk FFM	gm
DTSPIA12	Y2-1 Change Thoracic Spine Area	Y2-1 change Thoracic Spine Area	cm^2
DTSPIC12	Y2-1 Change Thoracic Spine Bone Mineral Content	Y2-1 change Thoracic Spine BMC	gm
DTSPID12	Y2-1 Change Thoracic Spine Bone Mineral Density	Y2-1 change Thoracic Spine BMD	gm/cm^2
DWBARE12	Y2-1 Change Total Whole Body AREA	Y2-1 Change Total WBody AREA	cm^2
DWBBMC12	Y2-1 Change Total Whole Body Bone Mineral Content	Y2-1 Change Total WBody BMC	gm
DWBBMD12	Y2-1 Change Total Whole Body Bone Mineral Density	Y2-1 Change Total WBody BMD	gm/cm^2
DXASTID	Staff ID # See HABC Web page for list of certified staff	Staff ID (DXA whole body)	
HABCID	Health ABC Enrollment ID # without the site code	Enrollment ID w/o site code	
HEADAREA	Head area	Head area	cm^2
HEADBMC	Head bone mineral content	Head BMC	gm

Variable Name	Variable Description	Variable Label	Value Label
HEADBMD	Head bone mineral density	Head BMD	gm/cm^2
HEADFAT	Head fat	Head fat	gm
HEADLEAN	Head fat free mass	Head FFM	gm
LARMAREA	Left arm area	Left arm area	cm^2
LARMBMC	Left arm bone mineral content	Left arm BMC	gm
LARMBMD	Left arm bone mineral density	Left arm BMD	gm/cm^2
LARMFAT	Left arm fat	Left arm fat	gm
LARMLEAN	Left arm fat free mass	Left arm FFM	gm
LLEGAREA	Left leg area	Left leg area	cm^2
LLEGBMC	Left leg bone mineral content	Left leg BMC	gm
LLEGBMD	Left leg bone mineral density	Left leg BMD	gm/cm^2
LLEGFAT	Left leg fat	Left leg fat	gm
LLEGLEAN	Left leg lean	Left leg FFM	gm
LRIBAREA	Left rib area	Left rib area	cm^2
LRIBBMC	Left rib bone mineral content	Left rib BMC	gm
LRIBBMD	Left rib bone mineral density	Left rib BMD	gm/cm^2
LSPIAREA	Lumbar spine area	Lumb spine area	cm^2
LSPIBMC	Lumbar spine bone mineral content	Lumb spine BMC	gm
LSPIBMD	Lumbar spine bone mineral density	Lumb spine BMD	gm/cm^2
PELVAREA	Pelvic area	Pelvic area	cm^2
PELVBMC	Pelvic bone mineral content	Pelvic BMC	gm
PELVBMD	Pelvic bone mineral density	Pelvic BMD	gm/cm^2
PCHEAD12	Y2-1 % Change Head Lean only	Y2-1 % Change Head Lean only	%
PCLARM12	Y2-1 % Change L Arm Lean only	Y2-1 % Change L Arm Lean only	%
PCLEAN12	Y2-1 % Change Total Whole Body Lean	Y2-1 % Change Total WBody Lean	%
PCLLEG12	Y2-1 % Change L Leg Lean only	Y2-1 % Change L Leg Lean only	%
PCRARM12	Y2-1 % Change R Arm Lean only	Y2-1 % Change R Arm Lean only	%
PCRLEG12	Y2-1 % Change R Leg Lean only	Y2-1 % Change R Leg Lean only	%
PCTRNK12	Y2-1 % Change Trunk Lean only	Y2-1 % Change Trunk Lean only	%
PFAT12	Y2-1 % Change Total Whole Body Fat	Y2-1 % Change Total WBody Fat	%
PHEADA12	Y2-1 % Change Head Area	Y2-1 % Change Head Area	%
PHEADC12	Y2-1 % Change Head Bone Mineral Content	Y2-1 % Change Head BMC	%
PHEADD12	Y2-1 % Change Head Bone Mineral Density	Y2-1 % Change Head BMD	%
PHEADF12	Y2-1 % Change Head Fat	Y2-1 % Change Head Fat	%

Variable Name	Variable Description	Variable Label	Value Label
PHEADL12	Y2-1 % Change Head Fat Free Mass	Y2-1 % Change Head FFM	%
PLARMA12	Y2-1 % Change L Arm Area	Y2-1 % Change L Arm Area	%
PLARMC12	Y2-1 % Change L Arm Bone Mineral Content	Y2-1 % Change L Arm BMC	%
PLARMD12	Y2-1 % Change L Arm Bone Mineral Density	Y2-1 % Change L Arm BMD	%
PLARMF12	Y2-1 % Change L Arm Fat	Y2-1 % Change L Arm Fat	%
PLARML12	Y2-1 % Change L Arm Fat Free Mass	Y2-1 % Change L Arm FFM	%
PLEAN12	Y2-1 % Change Total Whole Body Fat Free Mass	Y2-1 % Change Total WBody FFM	%
PLLEGA12	Y2-1 % Change L Leg Area	Y2-1 % Change L Leg Area	%
PLLEGC12	Y2-1 % Change L Leg Bone Mineral Content	Y2-1 % Change L Leg BMC	%
PLLEGD12	Y2-1 % Change L Leg Bone Mineral Density	Y2-1 % Change L Leg BMD	%
PLLEGF12	Y2-1 % Change L Leg Fat	Y2-1 % Change L Leg Fat	%
PLLEGL12	Y2-1 % Change L Leg Fat Free Mass	Y2-1 % Change L Leg FFM	%
PLRIBA12	Y2-1 % Change L Ribs Area	Y2-1 % Change L Ribs Area	%
PLRIBC12	Y2-1 % Change L Ribs Bone Mineral Content	Y2-1 % Change L Ribs BMC	%
PLRIBD12	Y2-1 % Change L Ribs Bone Mineral Density	Y2-1 % Change L Ribs BMD	%
PLSPIA12	Y2-1 % Change Lumbar Spine Area	Y2-1 % Change Lumbar Spine Area	%
PLSPIC12	Y2-1 % Change Lumbar Spine Bone Mineral Content	Y2-1 % Change Lumbar Spine BMC	%
PLSPID12	Y2-1 % Change Lumbar Spine Bone Mineral Density	Y2-1 % Change Lumbar Spine BMD	%
PMASS12	Y2-1 % Change Total Whole Body Mass	Y2-1 % Change Total WBody Mass	%
PPELVA12	Y2-1 % Change Pelvis Area	Y2-1 % Change Pelvis Area	%
PPELVC12	Y2-1 % Change Pelvis Bone Mineral Content	Y2-1 % Change Pelvis BMC	%
PPELVD12	Y2-1 % Change Pelvis Bone Mineral Density	Y2-1 % Change Pelvis BMD	%
PPF12	Y2-1 % Change Total Whole Body Percent Fat	Y2-1 % Change Total WBody %Fat	%
PRARMA12	Y2-1 % Change R Arm Area	Y2-1 % Change R Arm Area	%
PRARMC12	Y2-1 % Change R Arm Bone Mineral Content	Y2-1 % Change R Arm BMC	%

Variable Name	Variable Description	Variable Label	Value Label
PRARMD12	Y2-1 % Change R Arm Bone Mineral Density	Y2-1 % Change R Arm BMD	%
PRARMF12	Y2-1 % Change R Arm Fat	Y2-1 % Change R Arm Fat	%
PRARML12	Y2-1 % Change R Arm Fat Free Mass	Y2-1 % Change R Arm FFM	%
PRLEGA12	Y2-1 % Change R Leg Area	Y2-1 % Change R Leg Area	%
PRLEGC12	Y2-1 % Change R Leg Bone Mineral Content	Y2-1 % Change R Leg BMC	%
PRLEGD12	Y2-1 % Change R Leg Bone Mineral Density	Y2-1 % Change R Leg BMD	%
PRLEGF12	Y2-1 % Change R Leg Fat	Y2-1 % Change R Leg Fat	%
PRLEGL12	Y2-1 % Change R Leg Fat Free Mass	Y2-1 % Change R Leg FFM	%
PRRIBA12	Y2-1 % Change R Ribs Area	Y2-1 % Change R Ribs Area	%
PRRIBC12	Y2-1 % Change R Ribs Bone Mineral Content	Y2-1 % Change R Ribs BMC	%
PRRIBD12	Y2-1 % Change R Ribs Bone Mineral Density	Y2-1 % Change R Ribs BMD	%
PTRNKC12	Y2-1 % Change Trunk Bone Mineral Content	Y2-1 % Change Trunk BMC	%
PTRNKF12	Y2-1 % Change Trunk Fat	Y2-1 % Change Trunk Fat	%
PTRNKL12	Y2-1 % Change Trunk Fat Free Mass	Y2-1 % Change Trunk FFM	%
PTSPIA12	Y2-1 % Change Thoracic Spine Area	Y2-1 % Change Thoracic Spine Area	%
PTSPIC12	Y2-1 % Change Thoracic Spine Bone Mineral Content	Y2-1 % Change Thoracic Spine BMC	%
PTSPID12	Y2-1 % Change Thoracic Spine Bone Mineral Density	Y2-1 % Change Thoracic Spine BMD	%
PWBARE12	Y2-1 % Change Total Whole Body AREA	Y2-1 % Change Total WBody AREA	%
PWBBMC12	Y2-1 % Change Total Whole Body Bone Mineral Content	Y2-1 % Change Total WBody BMC	%
PWBBMD12	Y2-1 % Change Total Whole Body Bone Mineral Density	Y2-1 % Change Total WBody BMD	%
QDR_NB	QDR serial number	QDR serial nb	
RARMARE A	Right arm area	Right arm area	cm-sq
RARMBMC	Right arm bone mineral content	Right arm BMC	gm
RARMBMD	Right arm bone mineral density	Right arm BMD	gm/cm^2
RARMFAT	Right arm fat	Right arm fat	gm
RARMLEAN	Right arm fat free mass	Right arm FFM	gm
RLEGAREA	Right leg area	Right leg area	cm^2
RLEGBMC	Right leg bone mineral content	Right leg BMC	gm
RLEGBMD	Right leg bone mineral density	Right leg BMD	gm/cm^2

Variable Name	Variable Description	Variable Label	Value Label
RLEGFAT	Right leg fat	Right leg fat	gm
RLEGLEAN	Right leg fat free mass	Right leg FFM	gm
RRIBAREA	Right rib area	Right rib area	cm^2
RRIBBMC	Right rib bone mineral content	Right rib BMC	gm
RRIBBMD	Right rib bone mineral density	Right rib BMD	gm/cm^2
TOTFAT	Total fat	Total fat	gm
TOTLEAN	Total fat free mass	Total FFM	gm
TOTMASS	Total mass	Total mass	gm
TOTPF	Total percent fat	Total %fat	
TRNKBMC	Trunk BMC	Trunk BMC	gm
TRNKLEAN	Trunk fat free mass	Trunk FFM	gm
TRUNKFAT	Trunk fat	Trunk fat	gm
TSPIAREA	Thoracic spine area	Thor spine area	cm^2
TSPIBMC	Thoracic spine bone mineral content	Thor spine BMC	gm
TSPIBMD	Thoracic spine bone mineral density	Thor spine BMD	gm/cm^2
WBDATE	Date of exam: whole body DXA	Date of Exam	MMDDYY
WBDAYS12	Number of days between Year 1 and Year 2 WB DXA	Y2-1 #DAYS	days
WBFINAL	Final status: whole body	Final scan status	A = acceptable N = not reviewed U = unacceptable
WBMODE	Scan mode (describes the way the scan was performed)	Scan Mode	0 = unknown scan mode 1 = pencil beam 2 = performance mode 3 = high speed performance mode 4 = array slow 5 = array medium 6 = array fast 7 = turbo
WBSCANID	Scan ID on printout (9 character)	Scan ID on printout	
WBYRS12	Number of years between Year 1 and Year 2 WB DXA	Y2-1 #YEARS	years
WTOTAREA	Total area	Total area	cm^2
WTOTBMC	Total bone mineral content	Total BMC	gm
WTOTBMD	Total bone mineral density	Total BMD	gm/cm^2

HABC READING CENTER YEAR 2 VARIABLE LIST

FOOD FREQUENCY QUESTIONNAIRE RESULTS

Variable Name	Variable Description	Variable Label	Value Label
AA_ALA	Dietary Alanine (mg)	Dietary Alanine (mg)	mg
AA_ARG	Dietary Arginine (mg)	Dietary Arginine (mg)	mg
AA_ASP	Dietary Aspartic (mg)	Dietary Aspartic (mg)	mg
AA_CYS	Dietary Cystine (S-containing) (mg)	Dietary Cystine (S-containing) (mg)	mg
AA_CYSH	Dietary Cysteine (S-containing) (mg)	Dietary Cysteine (S-containing) (mg)	mg
AA_GLU	Dietary Glutamic (mg)	Dietary Glutamic (mg)	mg
AA_GLY	Dietary Glycine (mg)	Dietary Glycine (mg)	mg
AA_HIS	Dietary Histidine (mg)	Dietary Histidine (mg)	mg
AA_ILEU	Dietary Isoleucine (mg)	Dietary Isoleucine (mg)	mg
AA_LEU	Dietary Leucine (mg)	Dietary Leucine (mg)	mg
AA_LYS	Dietary Lysine (mg)	Dietary Lysine (mg)	mg
AA_MET	Dietary Methionine (S-containing) (mg)	Dietary Methionine (S-containing) (mg)	mg
AA_PHE	Dietary Phenylalanine (mg)	Dietary Phenylalanine (mg)	mg
AA_PRO	Dietary Proline (mg)	Dietary Proline (mg)	mg
AA_SER	Dietary Serine (mg)	Dietary Serine (mg)	mg
AA_THR	Dietary Threonine (mg)	Dietary Threonine (mg)	mg
AA_TRP	Dietary Tryptophan (mg)	Dietary Tryptophan (mg)	mg
AA_TYR	Dietary Tyrosine (mg)	Dietary Tyrosine (mg)	mg
AA_VAL	Dietary Valine (mg)	Dietary Valine (mg)	mg
COPPER	Dietary Copper (mg)	Dietary Copper (mg)	mg
DT_B12	Dietary Vitamin B-12 (ug)	Dietary Vitamin B-12 (ug)	ug
DT_RGSH	Dietary Glutathione, reduced (mg)	Dietary Glutathione, reduced (mg)	mg
DT_SELEN	Dietary Selenium (ug)	Dietary Selenium (ug)	ug
DT_TSGH	Dietary Glutathione, total (mg)	Dietary Glutathione, total (mg)	mg
FFQACARO	Daily alpha-carotene from food	Alpha-Carotene (µg)	µg
FFQANMPR	Total protein from animal sources (grams)	Total protein from animal sources (gm)	gm
FFQBCARO	Daily beta-carotene from food	Beta-Carotene (µg)	µg
FFQBPCRB	Daily percent Kcal from carbohydrate, alcoholic beverages excluded from denominator	% carb cals, alcoholic beverages excl	%
FFQBPFAT	Daily percent Kcal from fat, alcoholic beverages excluded from denominator	% fat cals, alcoholic beverages excluded	%

Variable Name	Variable Description	Variable Label	Value Label
FFQBPPRO	Daily percent Kcal from protein, alcoholic beverages excluded from denominator	% protein cals, alcoholic beverages excl	%
FFQCALC	Daily calcium from food	Calcium (mg)	mg
FFQCALS	Daily calories from food	Calories (Kcal)	Kcal
FFQCARB	Daily carbohydrate from food	Carbohydrate	g
FFQCARO	Daily Provitamin A carotenoids from food	Carotene Provitamin A carotenoids (µg)	µg
FFQCHOL	Daily cholesterol from food	Cholesterol (mg)	mg
FFQCRYP	Daily cryptoxanthin from food	Cryptoxanthin (carotenoid) (µg)	µg
FFQDAID	Daily daidzein from food	Daidzein (µg)	µg
FFQDATE	Date of FFQ exam	Date of FFQ exam	
FFQDRYS	Daily servings of milk, yogurt, cheese	Daily servings of milk,yogurt,cheese	
FFQFATS	Daily frequency of fats & oils, sweets, sodas	Daily freq of fats.oils,.sweets,sodas	
FFQFBEAN	Daily fiber from beans	Daily fiber from beans (g)	g
FFQFGRN	Daily fiber from grains	Daily fiber from grains (g)	g
FFQFIBR	Daily fiber from food	Total Dietary Fiber (g)	g
FFQFIXYN	Was a "fix" applied to this record	Was a "fix" applied to this record	0=No 1=Yes
FFQFOL	Daily folate from food	Folate (mg)	mg
FFQFRTS	Daily frequency of fruits & fruit juices	Daily freq of fruits, fruit juices	
FFQFVEG	Daily fiber from vegetables & fruits	Daily fiber from veg and fruit (g)	g
FFQGENI	Daily genistein from food	Genistein (µg)	µg
FFQGRNS	Daily servings of breads, cereals, rice, pasta	Daily servings of grain	
FFQGSF	Weekly grams of solid food	Grams of solid food (g)	g
FFQIRON	Daily iron from food	Iron (mg)	mg
FFQLINA	Daily linoleic acid from food	Linoleic Acid (g)	g
FFQLUT	Daily lutein from food	Lutein (carotenoid) (µg)	µg
FFQLYCO	Daily lycopene from food	Lycopene (carotenoid) (µg)	µg
FFQMAGN	Daily magnesium from food	Magnesium (mg)	mg
FFQMEAS	Daily servings of meat, fish, poultry, beans, eggs	Daily servings of meat/protein	
FFQN2HIF	Number of foods with "too high" frequency	Number of foods with "too high" frequ	

Variable Name	Variable Description	Variable Label	Value Label
FFQN2HIG	Number of food groups with "too high" total frequency	#food groups w/"too high" total freq	
FFQNERR	How many "serious errors" were applied (See Edit Report)	#"serious errors" applied	
FFQNFDS	Number of solid foods consumed per day	Number of solid foods consumed per day	
FFQNFIX	How many items were "fixed"	How many items were "fixed"	
FFQNIAC	Daily niacin from food	Niacin (mg)	mg
FFQNNOS	Number of food items with serving size omitted	#food items w/serv size omitted	
FFQNONCE	Number of foods marked as "once per" any unit	#foods marked as "once per" any unit	
FFQNSKIP	Number of food items skipped	Number of food items skipped	
FFQNWARN	How many "warnings" were applied (See Edit Report)	# "warnings" applied	
FFQOCOL9	Percent of foods marked as "twice per day"	%foods marked as "twice per day"	%
FFQOLEA	Daily oleic acid from food	Oleic Acid (g)	g
FFQOUTAP	Outlier on cals after portion size adjustments	Outlier on cals after portion size adj	L=outlier low M=not outlier H=outlier high
FFQOUTBP	Outlier on cals before portion size adjustments	Outlier on cals before portion size adj	L=outlier low M=not outlier H=outlier high
FFQPALCH	Daily percent Kcal from alcoholic beverages	% of Kcal from alcoholic beverages	%
FFQPCOL1	Percent of foods marked as "never or less than 1/month"	% marked as "never or less than 1/month"	%
FFQPCRB	Daily percent Kcal from carbohydrate	% of Kcal from carbohydrate	%
FFQPFAT	Daily percent Kcal from fat	% of Kcal from fat	%
FFQPHOS	Daily phosphorus from food	Phosphorus (mg)	mg
FFQPLRG	Percent of foods marked as "large portion"	%foods marked as "large portion"	%
FFQPMED	Percent of foods marked as "medium portion"	%foods marked as "medium portion"	%
FFQPOT	Daily potassium from food	Potassium (mg)	mg
FFQPPRO	Daily percent Kcal from protein	% of Kcal from protein	%

Variable Name	Variable Description	Variable Label	Value Label
FFQPROT	Daily protein from food	Protein (g)	g
FFQPSM	Percent of foods marked as "small portion"	% foods marked as "small portion"	%
FFQPSWT	Daily percent Kcal from sweets, desserts	% of Kcal from sweets, desserts	%
FFQPXLS	Percent of foods marked as "extra large portion"	%foods marked as "x-large portion"	%
FFQRETN	Daily retinol from food	Retinol (preformed Vit A, µg)	µg
FFQRIBO	Daily riboflavin (132) from food	Riboflavin (B2) (mg)	mg
FFQSFAT	Daily saturated fat from food	Saturated Fat (g)	g
FFQSOD	Daily sodium from food	Sodium (mg)	mg
FFQTFAT	Daily total fat from food	Total Fat	g
FFQTHIA	Daily thiamin (B1) from food	Thiamin (B1) (mg)	mg
FFQTOTPR	Total dietary protein (grams)	Total dietary protein (gm)	gm
FFQVEGPR	Total protein from vegetable sources (grams)	Total protein from vegetable sources (gm)	gm
FFQVEGS	Daily servings of vegetables	Daily servings of vegetables	
FFQVITA1	Daily Vitamin A from food (IU)	Vitamin A (IU)	IU
FFQVITA2	Daily Vitamin A from food (RE)	Vitamin A (RE)	RE
FFQVITB6	Daily Vitamin B6 from food	Vitamin B6 (mg)	mg
FFQVITC	Daily Vitamin C from food	Vitamin C (mg)	mg
FFQVITD	Daily Vitamin D from food	Vitamin D (IU)	IU
FFQVITE	Daily Vitamin E from food	Vitamin E a-TE	alpha-tocopherol equivalents
FFQZINC1	Daily zinc from food	Zinc (mg)	mg
FFQZINC2	Daily animal zinc from food	Zinc from animal sources (mg)	mg
FOL_DFE	Dietary Folate Equivalents (DFE) from food	Dietary Folate Equivalents (DFE) from food	DFE
FOL_FORT	Fortified folic acid from food (mcg)	Fortified folic acid from food (mcg)	mcg
FOL_NAT	Naturally occurring food folate (mcg)	Naturally occurring food folate (mcg)	mcg
GAMMATOC	Dietary Gamma tocopherol (mg)	Dietary Gamma tocopherol (mg)	mg
GI_BREAD	Daily glycemic index (white bread scale)	Daily Glycemic Index (white bread scale)	

Variable Name	Variable Description	Variable Label	Value Label
GI_GLUC	Daily glycemic index (gluose scale)	Daily Glycemic Index (glucose scale)	
GL_BREAD	Daily glycemic load (white bread scale)	Daily Glycemic Load (white bread scale)	
GL_GLUC	Daily glycemic load (gluose scale)	Daily Glycemic Load (glucose scale)	
H_EAT	Healthy Eating Index Score	Healthy Eating Index Score	
ISOFLAV	Dietary Total isoflavones (mg)	Dietary Total isoflavones (mg)	mg
MANGANES	Dietary Manganese (mg)	Dietary Manganese (mg)	mg
OMEGA3	Dietary Total Omega 3 fatty Acids (grams)	Dietary Total Omega 3 fatty Acids (grams)	grams
PANTO	Dietary Pantothenic acid (mg)	Dietary Pantothenic acid (mg)	mg
QUERCETN	Dietary Quercetin (mg)	Dietary Quercetin (mg)	mg
TRANSFAT	Dietary Total Trans Fatty Acids (grams)	Dietary Total Trans Fatty Acids (grams)	grams
WHOLGRAN	Servings of whole grains per day	Servings of whole grains per day	

HABC READING CENTER YEAR 2 VARIABLE LIST
ISOKINETIC STRENGTH (KINCOM)

Variable Name	Variable Description	Variable Label	Value Label
KCARM	Dynamometer arm length	Dyno arm length (cm)	cm
KCFARM	Dynamometer arm - final position	Dyno arm: final angle	deg
KCFMAX	Maximum force (moving from 80 to 40 degrees)	Avg maximum force(N): 80-40deg	N
KCFMEAN	Average force (moving from 80 to 40 degrees)	Average force(N): 80-40deg	N
KCFMIN	Minimum force (moving from 80 to 40 degrees)	Avg minimum force(N): 80-40deg	N
KCFSTD	Standard deviation (force)	Standard deviation (force) (N)	N
KCSARM	Dynamometer arm: initial angle	Dyno arm: initial angle	Deg
KCSTID	Staff ID #	Staff ID	
KCTMAX	Maximum torque (moving from 80 to 40 degrees)	Avg maximum torque(Nm): 80-40deg	Nm
KCTMEAN	Average torque (moving from 80 to 40 degrees)	Average torque(Nm): 80-40deg	Nm
KCTMIN	Minimum torque (moving from 80 to 40 degrees)	Avg minimum torque(Nm): 80-40deg	Nm
KCSIDE	KinCom Side Tested	KinCom Side Tested	
KCTSTD	Standard deviation (torque)	Standard deviation (torque) (Nm)	Nm
TRIAL	Number of trials	# of trials	

HABC READING CENTER YEAR 2 VARIABLE LIST
ULTRASOUND

Variable Name	Variable Description	Variable Label	Value Label
BUA	BUA mean	BUA mean	
BUACV	CV for BUA tests	CV for BUA tests	
BUADATE	Exam date	Exam date	MMDDYY
BUAMAX	Maximum BUA value	Maximum BUA value	
BUAMIN	Minimum BUA value	Minimum BUA value	
BUARNGE	Range of BUA values	Range of BUA values	
BUASIDE	BUA side	BUA side	L=left R=right
BUASOURC	Source of data	Source of data	1=Sahara 2=form
BUASTD	St. Dev. of BUA tests	St. Dev. of BUA tests	
EBMD	Estimated BMD mean	Estimated BMD mean	
EBMDCV	CV for estimated BMD	CV for est BMD	
EBMDMAX	Max value for estimated BMD	Max value for est BMD	
EBMDMIN	Min value for estimated BMD	Min value for est BMD	
EBMDRNGE	Range of estimated BMD values	Range of est BMD values	
EBMDSTD	Std dev for estimated BMD	Std dev for est BMD	
FLAGBUA	Flag set to 1 when participant has BUA data	Flag set to 1 when ppt has BUA data	1 = ppt has data
HABCID	HABC enrollment ID	HABC enrollment ID	
NBUA	# Of BUA tests	# of BUA tests	
NEBMD	# Of est BMD tests	# of est BMD tests	
NQUI	# Of QUI tests	# of QUI tests	
NSOS	# Of SOS tests	# of SOS tests	
QUI	Stiffness (QUI) mean	Stiffness (QUI) mean	
QUICV	CV for QUI	CV for QUI	
QUIMAX	Max value for QUI	Max value for QUI	
QUIMIN	Min value for QUI	Min value for QUI	
QUIRNGE	Range of QUI values	Range of QUI values	
QUISTD	Std dev for QUI	Std dev for QUI	
SOS	Speed of sound mean	Speed of sound mean	
SOSCV	CV for SOS	CV for SOS	
SOSMAX	Max value for SOS	Max value for SOS	
SOSMIN	Min value for SOS	Min value for SOS	
SOSRNGE	Range of SOS values	Range of SOS values	
SOSSTD	Std dev for SOS	Std dev for SOS	