

NATIONAL HEALTH AND AGING TRENDS STUDY (NHATS) ROUND 1 USER GUIDE

FINAL RELEASE

November 29, 2012

Suggested Citation: Kasper, Judith D. and Freedman, Vicki A. 2012. National Health and Aging Trends Study Round 1 User Guide: Final Release. Baltimore: Johns Hopkins University School of Public Health. Available at www.NHATS.org. We thank Marlene Niefeld, Maureen Skehan and Kimberley Collins for their assistance in preparing this manual and Jill Montaquila for her contributions to the sections on imputation and weight construction. This guide was prepared with funding from the National Institute on Aging (U01AG032947).

PREFACE

The NHATS Round 1 User Guide is designed to provide analysts with documentation about Round 1 concepts, measures, and characteristics relevant to data analysis. The user guide provides comprehensive descriptions of the NHATS conceptual framework, content of the baseline instrument, data file structure, created measures (including their origin), and selected special topics (e.g., imputation, weighting).

This document reflects scientific contributions of the NHATS leadership team—Judith D. Kasper, Vicki A. Freedman, Graham Kalton, Emily Agree, Brad Edwards, Vincent Mor, Brenda Spillman, Robert Wallace and Douglas Wolf—who conceptualized and guided the study’s design. Others who made contributions in key areas are: Susan Allen to the formulation of items on unmet need; Jack M. Guralnik, Christopher L. Seplaki, and Carlos Weiss to the data collection instruments for the physical performance activities; Jack M. Guralnik to the interviewer training protocol for administering the physical performance activities; Robert Moffitt to the data collection instruments and strategy for the Labor Force and Income and Asset Sections; Liliana E. Pezzin to the development of the approach to the person roster; Brenda L. Plassman to the formulation of the cognitive assessment measures for both participants and proxies; Jennifer Wolff and Cynthia Boyd to the Medical Care Section items on involvement of others in doctor visits. Data collection procedures, interviewer training, and fieldwork oversight were provided by Laura Branden, Tamara Bruce, Tammy Cook, and Susan Genoversa at Westat. Ray Saunders, Rick Dulaney, Naoko Okuma and Hong-ji Liu at Westat, and Marlene Niefeld and Maureen Skehan at Johns Hopkins University, played critical roles in database design, production and dissemination.

We are also grateful for the guidance of the NHATS Scientific Advisory Panel and the contributions of John Haaga, NHATS Project Scientist, and Georgeanne Patmios, NHATS Program Officer, of the National Institute on Aging.

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I. Overview of NHATS Baseline Content

I.A. Basic Facts

The National Health and Aging Trends Study (NHATS) is a unique national resource for the scientific study of functioning in later life. NHATS is intended to foster research that will guide efforts to reduce disability, maximize health and independent functioning, and enhance quality of life at older ages. As the population ages, NHATS will provide the basis for understanding trends and dynamics in late-life functioning, how these differ for various population subgroups, and the economic and social consequences of aging and disability for individuals, families, and society.

To achieve these aims, NHATS is gathering information in person from a nationally representative sample of Medicare beneficiaries ages 65 and older. Study participants were first interviewed in 2011 and annual re-interviews are planned in order to document change over time. The NHATS sample design, which is drawn from the Medicare enrollment file, oversamples persons at older ages and Black individuals. Replenishment of the sample to maintain its ability to represent the older Medicare population is planned for a future round.

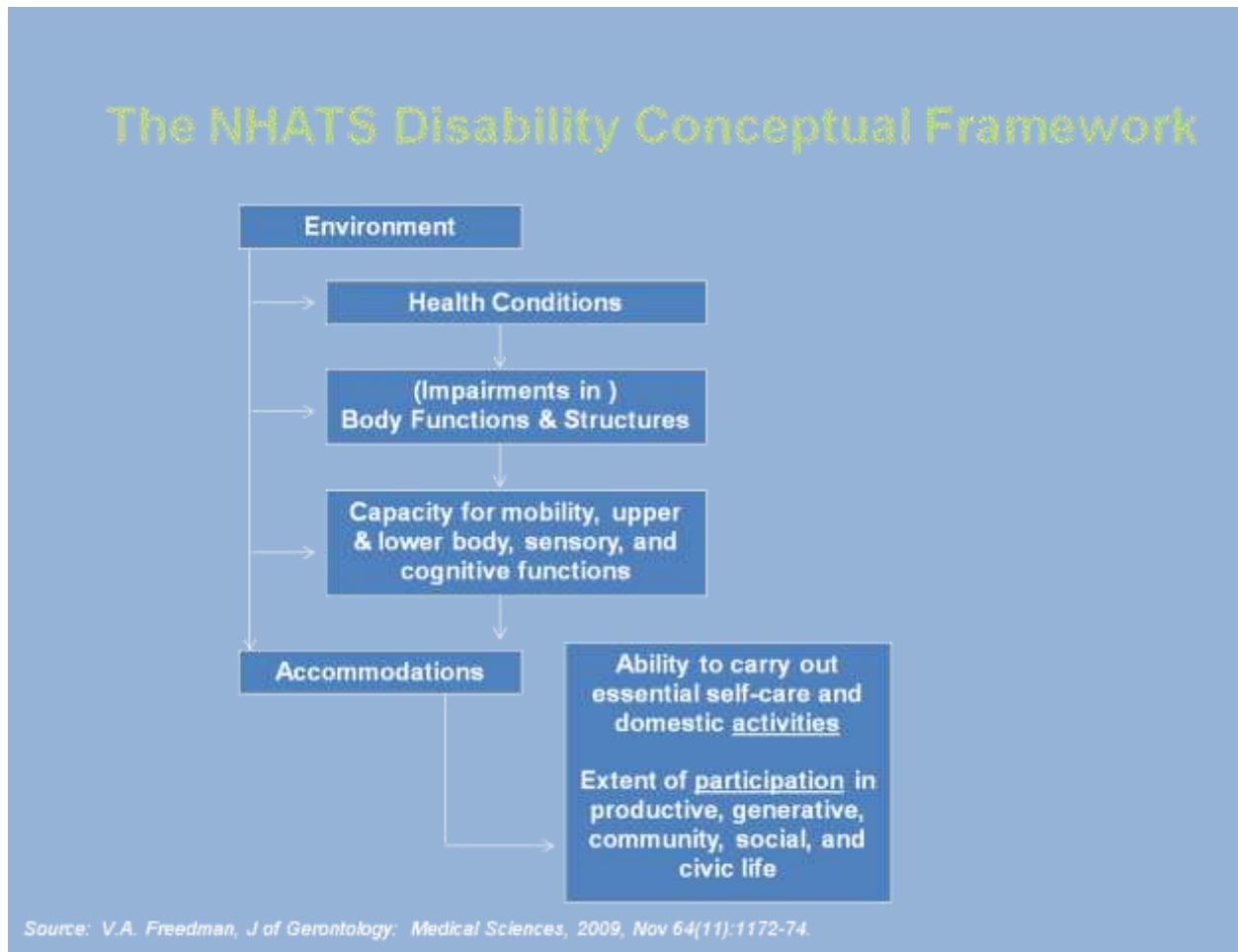
Detailed information is collected on participants' physical and cognitive capacity, how activities of daily life are carried out, the social, physical, and technological environment, and participation in valued activities. A series of activities performed by respondents provide complimentary measures of physical and cognitive capacity. In addition, information on living arrangements, economic status and well-being, and aspects of early life is collected.

NHATS is being supported by the National Institute on Aging under a cooperative agreement with the Johns Hopkins University Bloomberg School of Public Health (U01AG032947), with data collection by Westat. NHATS' design and content were developed by a multidisciplinary team of researchers from the fields of demography, geriatric medicine, epidemiology, health services research, economics, and gerontology.

I.B. NHATS Conceptual Framework & Content At-A-Glance

Development of disability-related content for NHATS was guided by a conceptual framework that blends the language of the World Health Organization's International Classification of Functioning with the Nagi model of disablement (see Figure 1 below and Freedman 2009 for details).

Figure 1. The NHATS Disability Conceptual Framework

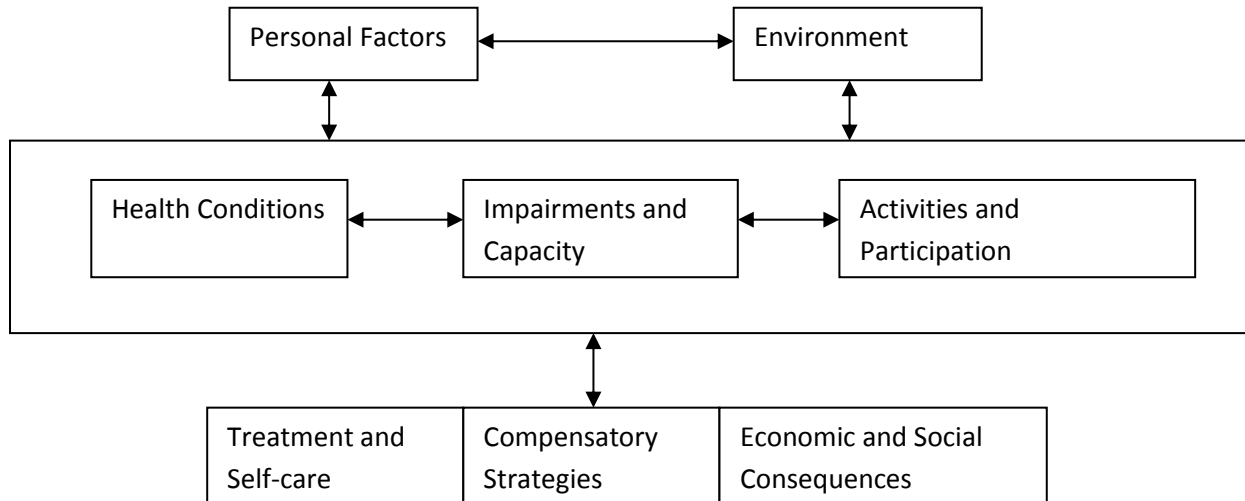


Over a two-year period, the NHATS team reengineered self-reported measures of physical capacity and activity limitations and developed new items to measure participation and restrictions in valued activities. The process involved obtaining input from the scientific community and several rounds of cognitive testing, followed by instrument refinement. A final step involved a validation study, which established the reliability and validity of the core activity and participation measures (Freedman et al. 2011).

The final NHATS disability protocol supports study of more traditional measures of functioning (activities of daily living, instrumental activities of daily living, functional limitations) while expanding their scope—in particular recognizing the role of accommodations (or compensatory strategies such as adopting devices, changing one’s environment, changing one’s behavior, or getting help or services), broadening measures of physical capacity, and introducing new measures of late-life participation restrictions. NHATS also collects performance-based measures of physical and cognitive capacity to complement the self-reported measures.

NHATS embedded the disability concepts in Figure 1 into a broader conceptual framework that encompassed precursors and consequences of disability for individuals, their families, and society. The key concept areas in Figure 2 form the basis for measurement areas in NHATS.

Figure 2. Key Concept Areas in NHATS



The following table provides an overview of content in each section of NHATS and how each section links to the concept areas in Figure 2. All sections, except for the Facility Questionnaire (FQ) and Interviewer Remarks (IR), are administered to the sample person (SP) or a designated proxy for the SP. These sections are referred to collectively as the SP interview in the remainder of this guide.

NHATS CONTENT AT-A-GLANCE

Section Name (Abbreviation)	Concept Area	Brief Description of Contents
Interview Setup (IS)	Personal Factors	Self or proxy respondent; reason for proxy; SP age and gender
Residence (RE)	Environment	Physical structure of residence; address where SP lives
Health Conditions (HC)	Health Conditions; Treatment and Self-Care	Self-rated health; self-reported diseases & chronic conditions; hospital stays and surgeries; falls; depression; anxiety; sleep quality
Housing Type (HT)	Environment	Length of residence at place SP lives; description of type of place SP lives (including questions that trigger need for FQ administration); is place part of retirement community
Service Environment (SE)	Environment	Asked only of persons living in residential care (excluding nursing homes): services available at place; services used by SP; does SP pay extra for services used
Household Members (HH)	Personal Factors	Marital status; years together/when marriage ended; spouse/partner: gender, age, education, ADLs, where lives if not in household; other household members: relationship to SP, gender, age
Children & Siblings (CS)	Personal Factors	Children not in household: relationship to SP, age, city/state where live; All children: education, marital status, how many children & how many under age 18; SP any living sisters or brothers
Social Network (SN)	Environment; Personal Factors	Up to 5 people SP talks with about important things: relationship to SP, gender, age, city/state where live
Home Environment (HO)	Environment; Compensatory Strategies	<i>Entrance:</i> stairs, (if multi-unit shared), ramp; <i>Features:</i> elevator, stair lift, shared spaces for meals/socializing, number of floors, bedroom/kitchen/bath on same floor; <i>Inside private space:</i> private bathroom with shower/tub, bathtub/stall/grab bars; shower seat; raised toilet/grab bars, medical emergency system, private kitchen space, microwave
Environmental Modifications (EM)	Environment; Compensatory Strategies	For modifications in HO: there when moved in or added, any added in last year, pay any of the cost of adding; pay anything for other devices that help with daily activities in last year; how much paid altogether in last year
Community (CM)	Environment	Agreement with statements about community: know each other, willing to help, trust
Technological Environment (TE)	Environment; Compensatory Strategies	<i>Technology:</i> cell phone, other phone, working computer; <i>Use computer:</i> in home, other places; Sent messages by email/texting; <i>Gone on internet/online:</i> grocery shopping, bills/banking, order/refill meds, contact medical providers, handle Medicare/insurance
Mobility Devices (MD)	Compensatory Strategies	Used: cane, walker, wheelchair (is it where SP lives), scooter (is it where SP lives)
Sensory and Physical Impairments & Symptoms	Impairments & Capacity	Hearing; vision; chewing & swallowing; speaking & being understood; pain: limits activities, frequency of meds, location; breathing problems (limits activities); strength or movement

(SS)		shoulders, arms, hands, feet (limits activities); strength or movement hips, legs, knees, feet (limits activities); low energy/easily exhausted (limits activities); balance/coordination (limits activities)
Physical Capacity (PC)	Capacity	Able to: walk 6 blocks/walk 3 blocks, climb 20 stairs/climb 10 stairs, lift and carry 20 lbs/10 lbs, kneel down/bend over, heavy object overhead/reach overhead, open sealed jar/grasp small objects
Cognitive Assessments: Proxy (CP)	Capacity	Overall memory rating; 8 items on changes in thinking/memory; behavior: getting lost, wanders off, able to leave alone, sees/hears things
Cognitive Assessments: Self (CG)	Capacity	Self-rated memory (current, interferes activities, one year ago); date (mo/day/year) and day of week; 10 word immediate recall; clock-drawing test; naming President and Vice President; 10 word delayed recall
Mobility (MO)	Activities: Self-care & Domestic	<i>Going outside home/building:</i> frequency, frequency of mobility device use, help and who helps, frequency done by self, difficulty by self, unmet need for help; If multiunit: Frequency of leaving private space to go other areas in building; frequency leaving room where SP sleeps; <i>Walking around inside home/building:</i> frequency, frequency of mobility device use, frequency hold onto walls/furniture, help and who helps, frequency done by self, difficulty by self, frequency compared to a year ago, unmet need for help; <i>Getting out of bed:</i> frequency use cane/walker, help and who helps, frequency done by self; difficulty by self, unmet need for help
Duration of Mobility Accommodations (DM)	Activities: Self-care & Domestic	If no help last month going outside, walking inside, getting out of bed: help in last year, month last got help in last year; If help last month with going outside or walking inside or getting out of bed: help longer than a year, month first got help in last year or number of years if more than 1; If no use last month of cane or walker or wheelchair or scooter: help in last year, month last got help in last year; If use last month of cane or walker or wheelchair or scooter: help longer than a year, month first got help in last year or number of years if more than 1; Help going outside, walking inside, getting out of bed: at age 65, since age 65 Use cane or walker or wheelchair or scooter: at age 65, since age 65
Driving & Transportation (DT)	Activities: Self-care & Domestic; Participation	<i>Drive yourself:</i> frequency, date or age drove last, driving situations people avoid (night, alone, busy roads, bad weather); <i>How else get places:</i> walk, ride (who gives SP ride), van/shuttle service, public transportation, taxi, other

Household Activities (HA)	Activities: Self-care & Domestic	<p><i>How did laundry</i> (always by self, always with someone, someone else always did, it varied, not done): where done, who did with or for, reason someone else did with or for (health/functioning or other), difficulty by self, frequency compared to a year ago, unmet need (due to no help/difficulty);</p> <p><i>How did shopping for groceries or personal items</i> (always by self, always with someone, someone else always did, it varied, not done): pay by check/cash/debit card/credit card, who did with or for, reason someone else did with or for (health/functioning or other), difficulty by self, frequency compared to a year ago, unmet need (due to no help/difficulty);</p> <p><i>How hot meals made</i> (always by self, always with someone, someone else always did, it varied, not done): frequency restaurant meals/ eat-in/take out (not meals on wheels), who did with or for, reason someone else did with or for (health/functioning or other), difficulty by self, frequency compared to a year ago, unmet need (due to no help/difficulty);</p> <p><i>How handle bills and banking</i> (always by self, always with someone, someone else always did, it varied, not done): who did with or for, reason someone else did with or for (health/functioning or other), difficulty by self, frequency compared to a year ago, unmet need (due to no help/difficulty);</p> <p><i>Handled less common money matters</i> (opening/closing accounts, loans): did any of these; help and who helps</p>
Self-Care Activities (SC)	Activities: Self-care & Domestic	<p><i>How eats</i>: frequency use adapted utensils, help and who helps, frequency by self, difficulty by self with adapted utensils if used, unmet need (due to no help/difficulty);</p> <p><i>How gets cleaned up</i>: usually bath/shower/other, which most often, frequency use grab bars, frequency use shower or tub seat, help and who helps, frequency by self, difficulty by self with grab bars/shower or tub seat if used, frequency compared to a year ago, unmet need (due to no help/difficulty);</p> <p><i>Using the toilet</i>: use a portable commode/disposable pads or undergarments/grab bars around toilet/raised toilet or seat, help and who helps, frequency by self, difficulty by self with grab bars/raised toilet or seat if used, unmet need (due to no help/difficulty);</p> <p><i>Getting dressed</i>: use a button hook/reacher or grabber/special clothes, help and who helps, frequency by self, difficulty by self with special items if used,; frequency compared to a year ago, unmet need (due to no help/difficulty)</p>
Duration of Self-Care Accommodations (DS)	Activities: Self-care & Domestic	<p>If no help last month with eating, getting cleaned up, using the toilet, or getting dressed: help in last year, month last got help in last year;</p> <p>If help last month with eating, getting cleaned up, using the toilet or getting dressed: help</p>

		longer than a year, month first got help in last year or number of years if more than 1; Help with eating or getting cleaned up or using the toilet or getting dressed: at age 65, since age 65
Medical Care Activities (MC)	Activities: Self-care & Domestic	Take medications prescribed by a doctor; <i>How keep track of medications:</i> (always by self, always with someone, someone else always did, it varied, not done): where get medicines, how get medicines (SP picks up, other picks up, delivery), frequency use reminders, help and who helps, reason someone else did with or for (health/functioning or other), difficulty by self, frequency compared to a year ago, unmet need (due to no help/difficulty); <i>How handle medical care:</i> regular doctor, seen in last year, how get to doctor, who takes SP, anyone sit in with SP and doctor during visits, who sits in (most often), does person who sits in help, remind, ask, help understand; Handling medical bills and insurance: changes plans in last year, help and who helps
Participation in Activities (PA)	Participation	Visit in person with friends/family not co-resident, health/functioning keep from doing, transportation keep from doing; how important to SP; Attend religious services, health/functioning keep from doing, transportation keep from doing; how important to SP; Participate in clubs, classes, or other organized activities, health/functioning keep from doing; transportation keep from doing, how important to SP; Go out for enjoyment, health/functioning keep from doing, transportation keep from doing; how important to SP; Work for pay or in a business SP owns, health/functioning keep from doing; Do volunteer work, health/functioning keep from doing; Provide care/look after an adult or child who cannot care for themselves, who was that; Go walking for exercise; Do vigorous activities What is favorite activity, health/functioning keep from doing
Smoking (SD)	Personal Factors	Ever smoked, smokes now, cigarettes per day, age when first smoked regularly, age when last smoked regularly
Physical Performance Assessment Eligibility Questions (PE)	Capacity	Grip strength: exclude if surgery/serious injury or flare-up of pain in both hands, exclude if surgery/serious injury or flare-up of pain in arm/shoulder on both sides, test on dominant hand if not excluded, test on other hand if dominant hand excluded; Chair Stands: exclude if surgery or serious injury on both hips, exclude if SP who always uses mobility device to get out of bed or always has help to get out of bed says not able to get up out of chair by him/herself and without mobility devices (if used);

		Balance Stands: exclude if SP who always uses mobility device to get out of bed or always has help to get out of bed says cannot stand without holding onto anyone or anything; Walking: exclude if SP uses wheelchair or scooter every time to get around home or building, exclude if SP says cannot walk a short distance in room by him/herself
Performance Activities Booklet	Capacity	Balance Stands; Walking Course; Chair Stands; Grip Strength; Waist Circumference; Peak Air Flow
Height & Weight (HW)	Personal factors	Current weight; weight at age 50; lost 10 pounds in last year; trying to lose weight; height, height at age 50
Early Life (EL)	Personal factors	Born in US; State or country of birth; year or age came to US to live; health as a child; how well off financially when growing up; live with both parents to age 15; where lived at age 15; education; mother still living; father still living
Race, Ethnicity & Language (RL)	Personal factors	Race; primary race if more than one; Hispanic ethnicity; (interview in Spanish); speak language other than English; how well understand English when spoken to; how well speak English
Veteran's Status (VA)	Personal factors	Served on active duty, period of service, active member of National Guard/military reserve
Well-Being (WB)	Economic and Social Consequences	Frequency of feelings in last month: cheerful, bored, full of life, upset; Agreement with statements about life: meaning and purpose, confident, gave up trying to improve life, like living situation; Age SP feels; Agreement with statements: other people determine activities, I do what I want, I adjust to change
Insurance Plans (IP)	Personal factors; Economic and Social Consequences	Prescription drug coverage; Medicare supplemental; Medicaid; TRICARE; long-term care insurance: services covered, premiums, how long had policy
Labor Force Participation (LF)	Personal factors; Economic and Social Consequences	Status (working, unemployed, not in labor force); if working: hours per week, hours last week, payment schedule, amount of last paycheck, amount earned last month; occupation most of life; is work now different; does spouse work; spouse pay last month
Home Ownership (HP)	Personal factors; Economic and Social Consequences	Own or rent; mortgage: paid off, payment amounts, time left, amount owed; present value of home; rent amount; is home public or low income housing
Income & Assets (IA)	Personal factors; Economic and Social Consequences	Sources of income: Social Security, SSI, Veteran's Administration, pension, other retirement plans, mutual funds/stocks, bonds, checking account, savings/money market, CD, business/farm/real estate; Payment amounts in last month: Social Security, SSI, VA, pension;

		Other retirement plans: worth, amount withdrawn last month, amount withdrawn last calendar year; Mutual funds/stocks/bonds: worth; Checking/savings-money market/CD: worth; interest/dividend income in last calendar year from all mutual funds/stocks/bonds/bank accounts/CD ; Business/farm/real e state: worth if sold today, income in last calendar year; Total income last calendar year from all sources
Car Ownership (CO)	Personal factors; Economic and Social Consequences	Own cars/trucks/vans; how many; worth if sold today
Economic Well-Being (EW)	Personal factors; Economic and Social Consequences	Credit card: usually pay off monthly, current balance, amount owed for medical care, paying medical bills over time and amount; Financial transfers: SP receives from children/relatives, who, amount last year; SP gives to children/relatives, who, amount last year ; SP receives food stamps, other food assistance such as meals on wheels, energy assistance, food insecurity, problems paying rent/utility bills/medical or drug bills
Helpers (HL)	Compensatory Strategies	For each helper (other than staff at residential care): schedule, days per week or month, hours per day, whether paid to help, sources of payment, amount paid by SP/family
NLTCS ADL and IADL Screening Questions	Activities: Self-care & Domestic	17 screening questions from the NLTCS
Facility Questionnaire (FQ)	Environment; Compensatory Strategies	All residential care places where SPs reside (including nursing homes): name and address, type of place, type of unit where SP lives, services available to persons at SP's level of care; sources of payment for SP, amount paid in last month by source; total monthly payment, primary payer
Interviewer Remarks (IR)	Home Environment; Interview environment	Where interview occurred if not at SP's home; Observed condition of home: flaking paint, pests, broken furniture, flooring, tripping hazards, clutter in home; Observed condition of environment around home: litter, graffiti, vacant houses, foreclosure signs; Observed condition of home exterior: windows, foundation, outside of home , roof, walking surfaces Interviewer remarks on # of sessions to complete; SP understanding; help with interview; FQ in person or by phone

I.C. Data collected by residential status

For purposes of data collection, distinctions are made among persons living in: residential care settings that are nursing homes, residential care settings other than nursing homes, and all other community settings.

Persons in all settings except nursing homes are administered the In-Person Sample Person (SP) Interview (including the Performance Activities Booklet). The Facility Questionnaire (FQ) is administered to a staff person whenever a sample person is determined to live in a residential care setting—both nursing homes and residential care settings other than nursing homes.

The table below summarizes how residential status was identified for purposes of data collection and when the SP and FQ interviews were administered. See detailed descriptions of the HT and FQ in the Content Documentation for additional information.

Identification of residential status and data collection	Community	Residential Care not Nursing Home	Nursing Home
How residential status was determined for data collection: HT section of SP Interview ¹ FQ Interview ²	X ---	X X	--- X
Data Collection SP Interview FQ Interview	X ---	X X	--- X
<p>¹The status of “residential care not nursing home” was assigned and an FQ interview was attempted if: a respondent who lived in a multi-unit building (or “other” structure) or in a retirement community said the place he/she lives has different units/areas SP can move to if care is needed, offers help with medications or bathing/dressing, or offers meals for residents (these 3 questions are in HT section); or a respondent lived in a free standing or attached home and described the type of place he/she lives as either a “group home/board and care/supervised housing” or as “assisted living facility or continuing care retirement community.”</p> <p>²The status of “residential care not nursing home” was assigned and an SP interview attempted when the FQ interview (based on items FQ6, FQ10, and FQ11) indicated that the facility type was not a nursing home. The flag for facility type was assigned at the end of the FQ interview.</p>			

NHATS Round 1 Data Collection Procedures provides flow charts of Round 1 data collection protocols by residence and SP contact procedures. The variable “r1dresid” on both the SP and Tracker files identifies residence of SPs for data collection purposes. FQ variables that identify the type of facility and place in the facility where the SP lives are: fq1dfacdescr; fq1dosfacd; fq1dfacarea; fq1dosfaca (see *Section III.H. Derived Variables*).

II. Content Documentation

Introduction

This section describes the content of the data collection instruments for the National Health and Aging Trends Study (NHATS). Like the content summary table in *Section I.B.*, it is organized in the order sections are administered in the NHATS interview. A description of items in each section is provided, with relevant information about administration and, where applicable, information on sources for items and references.

Who does the NHATS sample represent?

The sample represents Medicare beneficiaries ages 65 and older living in the contiguous United States. 96% of all persons living in the United States that are in this age group are Medicare beneficiaries.¹

How were NHATS participants sampled?

Round 1 of NHATS used a stratified three-stage sample design: 1) selection of 95 primary sampling units (PSUs), which are individual counties or groups of counties, 2) selection of 655 secondary sampling units (SSUs), which are ZIP codes or ZIP code fragments within sampled PSUs, and 3) selection of beneficiaries within sampled SSUs who were age 65 and older as of September 30, 2010, with oversamples by age and for Black non-Hispanic persons. The probabilities of selection at each of the three stages were designed to yield equal probability samples and targeted sample sizes by age group and race/ethnicity. 12,411 cases were released to the field in all. For more details on NHATS Round 1 sample design and selection see Montaquila, Freedman, Edwards, and Kasper (2012).

What is the Round 1 response rate?

Of the 12,411 individuals selected for NHATS, 774 were deceased prior to fieldwork or living outside the target PSUs (ineligible), 3,392 were non-respondents, and 8,245 were respondents. The Round 1 unweighted response rate is 70.9% ($8,245 / (8,245 + 3,392)$) and the weighted response rate is 71.3%.

Who are NHATS respondents?

Most sample persons respond for themselves. Proxy respondents are used in instances where the sample person cannot respond and information is collected on the reasons a proxy is used (see IS section of the interview). When the sample person is living in a residential care setting, a staff person at the place serves as a respondent to the Facility Questionnaire (see FQ).

¹ According to the 2010 US Census, there are 40.3 million individuals ages 65 and older living in the United States (Howden and Meyer, 2010). CMS estimates Medicare enrollment for its aged beneficiaries to be 38.8 million (excluding Puerto Rico and the Virgin Islands, but including if state is unknown (<https://www.cms.gov/MedicareEnRpts/Downloads/10Aged.pdf>)).

What are the data collection instruments for NHATS?

The primary data collection instrument is the Sample Person (SP) Interview, which is administered for all sample persons living in the community and in residential care settings other than nursing homes. As part of the SP interview, the Performance Activities Booklet is used to record the results of the physical activities and the IRQ is used to record characteristics of the SP's environment. In addition, the Facility Questionnaire (FQ) is administered to a staff person when a sample person resides in a residential care setting, including a nursing home.

How is residential care defined for purposes of data collection?

For data collection purposes at Round 1, NHATS distinguishes among residential care settings that are nursing homes, residential care places other than nursing homes, and all other community settings.

Residential care places other than nursing homes are identified in the SP interview and in the FQ interview. Questions in the Housing Type section (HT) of the SP interview identify residential care places in two ways: 1) if the SP lives in a multi-unit building (or "other" structure) or a retirement community and indicates that the place he/she lives has areas you can move to if care is needed, offers help with medications or self-care, or offers meals or 2) if the SP lives in a freestanding or attached home and reports living in a "group home/board and care/supervised housing" or "assisted living facility or continuing care retirement community." In the FQ interview a staff person also indicates whether the SP is in a residential care setting other than a nursing home (e.g. assisted living, board and care home, non-nursing home part of a CCRC). If the SP interview was conducted first, as happened most often, and SP's residence was identified as a residential care place, interviewers would follow-up with a staff person to conduct the FQ. In some instances, no staff person could be identified (e.g. residence was senior housing with no onsite staff). If the FQ interview was conducted first, in some instances no SP interview was obtained.

If the interviewer learns that the SP is living in a nursing home—through a spouse or other relative at the address in the Medicare enrollment file or from a facility staff person if the address is a nursing home—and is told that the sample person is not expected to return home, the interviewer administers the FQ to a staff person at the nursing home. If the facility respondent confirms that the SP is in a nursing home unit then the SP is considered a nursing home resident. If the sample person is expected to leave the nursing home, the interviewer either waits until the SP returns to the community or administers a proxy interview.

NHATS Round 1 Data Collection Procedures provides flow charts of Round 1 data collection protocols by residence and SP contact procedures. The variable "r1dresid" on both the SP and Tracker files identifies residence of SPs for data collection purposes. FQ variables that identify the type of facility and place in the facility where the SP lives are: fq1dfacdesc; fq1dosfacd; fq1dfacarea; fq1dosfaca (see *Section III.H. Derived Variables*).

Interview Setup (IS)

The Interview Setup provides an introduction to the study, obtains age and gender for the sample person, and identifies whether a proxy respondent is being used and why. When a proxy respondent is used information is collected on:

- reasons a proxy was used (dementia or cognitive impairment reported by proxy, sample person is too ill, speech or hearing impairment, or another reason);
- relationship of the proxy to the sample person; and,
- proxy familiarity with the sample person’s daily routine.

Residence (RE)

The Residence section collects information on the type of physical structure the sample person lives in—free-standing (detached) single house, single house attached to others, mobile home or trailer, multi-unit (2+) building, or other (specify). A flag indicating type of structure (fl1structure) is used in skip patterns for some other sections of the interview.

At baseline, physical structure is coded by the interviewer based on observation unless the interview is being conducted somewhere other than the sample person’s residence. In these cases, the sample person is asked to identify the physical structure of his/her residence. If the SP lives in a multi-unit building the interviewer also indicates if the building has only one or more than one floor (fl1bldgfl; used in the Home Environment (HO) section). The sample person’s address is confirmed in this section as well.

Other sections collecting information on place sample person lives

Housing Type (HT):	Length of residence and type of place
Service Environment (SE):	If sample person is in residential care (other than nursing home) services available and used
Home Environment (HO):	Features of the home environment
Environmental Modifications (EM):	Whether features of the home environment were added and out-of-pocket costs if so; out of pocket costs for other devices for daily activities
Environmental Checklist (IR):	Conditions inside and outside the home
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at sample person’s level of care; payment information in last month

Health Conditions (HC)

This section collects self-reported chronic conditions and diseases, selected health care utilization, information on falls, and measures of depression, anxiety, and sleep quality.

General Health Status and Conditions: General health status is asked first, followed by whether the person has ever been told by a doctor that he/she has any of several chronic conditions. Types of cancer, age at diagnosis if dementia/Alzheimer’s disease is reported, and broken or fractured bones since age 50 are asked. An open-ended question asks whether there is another serious disease or illness the person has been told he/she has by a doctor.

Hospital Stays and Surgeries: Overnight hospital stays within the last 12 months, the number of overnight hospital stays in the last 12 months, and whether the person ever had

certain types of surgery (e.g., knee replacement, hip repair/replacement, cataract, back or spine, heart) are collected. For surgeries, the timing—within the last 12 months and, if not, at what age this occurred—is ascertained.

Falls: Falls are defined as “any fall, slip, or trip in which you lose your balance and land on the floor or ground or at a lower level.” This wording mirrors the definition used in the Women’s Health and Aging Study (Guralnik et al. 1995). Information includes: falls within the last month and within the last year, number of falls in the last year, whether persons worried about falling down in the last month, and whether that worry limited activities.

Depression and Anxiety: NHATS uses the PHQ-2 and the GAD-2, which are brief screening instruments for depression and anxiety, respectively. The questions are administered to self-respondents only: “Over the last month, how often have you: a) had little interest or pleasure in doing things; b) felt down, depressed, or hopeless; c) felt nervous, anxious, or on edge; d) been unable to stop or control worrying?” Response categories are: not at all, several days, more than half the days, nearly every day. Items “a” and “b” form the PHQ-2; items “c” and “d” form the GAD-2. Scores can be calculated for each measure separately, or for a combined measure, based on summing scores for the items (0 = not at all; 1= several days; 2=more than half the days; 3=nearly every day). The reference period of “one month” was used in NHATS to correspond to the reference period for measures of functioning (e.g. self-care, mobility); the usual reference period is 2 weeks. For sensitivity, specificity, and recommended cut-points for the PHQ-2, the GAD-2 and a 4-item combined measure, see Kroenke et al. (2003, 2007, 2009) and Lowe et al. (2009).

Sleep Quality: Three questions are included on sleep in the last month: how often it takes more than 30 minutes to fall asleep at night, how often person had trouble falling back asleep on nights he/she woke up, and how often he/she took medication to sleep. Response categories are: every night, most nights, some nights, rarely, never.

Housing Type (HT)

Length of residence at current address is asked. All persons are asked whether their home is part of a retirement community or a senior housing community.

As described in *Section I. C. Data collected by residential status*, questions in this section also are used to determine whether the sample person lives in a residential care setting for data collection purposes. The items used for this purpose are:

- For SPs in free standing or attached homes, identification of the place the person lives as “group home/board and care/or supervised housing” or “assisted living facility or continuing care retirement community”;
- For SPs in multi-unit buildings (or “other” structures) or retirement communities, a positive response to any of 3 nested trigger questions about the place—are there different areas you can move to if you need care; is help offered with medications or activities like bathing or dressing; are meals for residents offered.

Because the questions that trigger an FQ are nested (SPs move to the next question only if they say no to the prior one), they should not be used for analyses of services in residential care environments. Either the Service Environment (SE) (the person’s report of services available and used) and/or the Facility Questionnaire (FQ) (staff report of services offered at the sample person’s level of care) should be used for this purpose.

A question about what people in residential care settings call their private living space is also asked and the answer fills questions about the home environment later in the interview.

Other sections collecting information on place sample person lives

Residence (RE):	Physical structure of residence
Service Environment (SE):	If sample person is in residential care (other than nursing home) services available and used
Home Environment (HO):	Features of the home environment
Environmental Modifications (EM):	Whether features of the home environment were added and out-of-pocket costs if so; out of pocket costs for other devices for daily activities
Environmental Checklist (IR):	Conditions inside and outside the home
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at sample person’s level of care; payment information in last month

Service Environment (SE)

This section is administered only to persons in residential care (other than nursing homes). The Service Environment questions are asked if questions in the HT section indicate the person is in residential care for data collection purposes. Otherwise this section is skipped.

The questions asked are: services available at the place person lives whether or not he/she uses these; services used in the last month; and, for services used, if there is an extra charge. The list of services covers meals; help with medications, bathing and dressing, laundry, housekeeping; transportation and socializing.

Other sections collecting information on place sample person lives

Residence (RE):	Physical structure of residence
Housing Type (HT):	Length of residence and type of place
Home Environment (HO):	Features of the home environment
Environmental Modifications (EM):	Whether features of the home environment were added and out-of-pocket costs if so; out of pocket costs for other devices for daily activities
Environmental Checklist (IR):	Conditions inside and outside the home
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at sample person’s level of care; payment information in last month

Household (HH)

The Household section gathers information on the person's spouse/partner and those who live with the sample person.

Marital Status and History: Marital status is asked and, if married or with a partner, years in relationship. For persons widowed or divorced, month and year that a spouse passed away or a marriage ended is obtained.

Spouse/Partner Characteristics: Spouse/partner gender, date of birth, education, and need for help with personal care is obtained for persons who are married/partnered. Whether the spouse/partner lives with the sample person is confirmed and, if the spouse/partner does not, the type of place the spouse/partner lives is asked.

Other Household Member Characteristics: For all other household members, relationship to the sample person, gender, and date of birth are obtained.

Other sections collecting information on family

Children and Siblings (CS):	For children who are not living in sample person's household, relationship to sample person, gender, date of birth, and city and state of residence are asked. For all children, education, marital status, and information on their children are asked. Number of sample person's living siblings is obtained.
Early Life (EL):	Questions on whether parents are living and age at death are asked.

Children and Siblings (CS)

For children who do not live with the sample person, relationship to the sample person, gender, date of birth, and city and state of residence are asked. For all children, this section obtains education, marital status, number of their children and number of their children under age 18. The section also includes questions on the number of sample person's living brothers and sisters.

Other sections collecting information on family

Household (HH):	Information about household members who are family includes: relationship to sample person, gender, and date of birth. Additional information is collected for a spouse/partner (education, need for help with personal care, type of residence if not in sample person's household).
Early Life (EL):	Questions on whether parents are living and age at

death are asked.

Social Network (SN)

Persons are asked to name up to 5 people that they “talk to about important things.” Important things may include good or bad things that happen, problems the person is having, or important concerns. Information for each social network member includes relationship to the sample person, gender, age, and location (city/state). The NHATS approach to social network is consistent with a traditional approach for egocentric social network data collection used in several surveys and is directly comparable to The National Social Life Health & Aging Project Confidant Roster (<http://www.norc.uchicago.edu/nshap>; Cornwell et al. 2009).

Because the social network was collected after the household rostering was completed, interviewers had the option of choosing individuals already rostered or adding someone to the roster. Consequently, the order in which social network members are listed should not be taken to indicate the order in which they were named by the respondent.

The social network questions are not asked of proxy respondents.

Home Environment (HO)

The Home Environment section collects information on three concepts: access to the home, building amenities, and features inside the person’s home or (residential care) private living space (Freedman et al. 2006).

Access to the Home: Questions ascertain the presence of stairs, common or shared entrances for multi-unit dwellings, and presence of a ramp at the entrance.

Building (multi-unit structure) Amenities: These include: an elevator, stair lift/glide, shared spaces for meals and socializing, bath amenities (a bathtub, shower stall, grab bar in the bathtub/shower, a bath/shower seat, raised toilet/seat, grab bars around toilet, medical emergency system), a private kitchen area, and working microwave. For persons in residential care, an additional question is asked about whether the person has a private bathroom with bath/shower.

Features inside the Home (if not multi-unit structure): These include: number of floors, bedroom/kitchen/bath on same floor, elevator, stair lift/glide, bath amenities (a bathtub, shower stall, grab bar in the bathtub/shower, a bath/shower seat, raised toilet/seat, grab bars around toilet, medical emergency system), and working microwave.

Other sections collecting information on place sample person lives

Residence (RE):	Physical structure of residence
Housing Type (HT):	Length of residence and type of place
Service Environment (SE):	If sample person is in residential care (other than

	nursing home) services available and used
Home Environment (HO):	Features of the home environment
Environmental Modifications (EM):	Whether features of the home environment were added and out-of-pocket costs if so; out of pocket costs for other devices for daily activities
Environmental Checklist (IR):	Conditions inside and outside the home
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at sample person's level of care; payment information in last month

Environmental Modifications (EM)

This section refers to features of the home that were identified in HO and asks for each whether it was present when the person moved in or whether it has been added since. If any features were added, the person is asked to identify those added in the last year. Overall costs for features added in the last year to the person or his/her family is asked. A separate question asks about overall costs in the last year for devices that help with daily activities: glasses, hearing aids, canes, walkers, wheelchairs, scooters, reaching devices, dressing devices, adapted eating utensils.

Other sections collecting information on place sample person lives

Residence (RE):	Physical structure of residence
Housing Type (HT):	Length of residence and type of place
Service Environment (SE):	If sample person is in residential care (other than nursing home) services available and used
Home Environment (HO):	Features of the home environment
Environmental Checklist (IR):	Conditions inside and outside the home
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at sample person's level of care; payment information in last month

Community (CM)

Persons are asked whether they agree a lot, agree a little, or do not agree with three statements about their community: people know each other well, people are willing to help each other, and people in the community can be trusted. These measures were adapted for use in NHATS from Cagney et al. (2009) and Sampson et al. (1997) to accommodate multiple residential settings.

Technological Environment (TE)

Items focus on communication and information technology available to persons and their use of this type of technology. Questions on availability ask whether the person has a working: cell phone, other telephone, and computer. Questions on use ask about frequency of sending messages by email or texting and using a computer at locations outside the home (if no computer in the home). Persons also are asked about going on the Internet or online in the last month to: shop for groceries or personal items, pay bills or do banking, order or refill prescriptions, contact his/her medical providers, handle Medicare or other insurance matters, or get information about his/her health conditions.

Mobility Devices (MD)

The Mobility Device section asks about use of mobility-related assistive technology (cane, walker, wheelchair, scooter) in the last month. These items are used in the Mobility (MO) and Duration of Mobility Accommodations (DM) sections.

Sensory and Physical Impairments and Symptoms (SS)

This section addresses vision, hearing, and limitations or impairments in several body systems. Also in this section are questions on symptoms of pain and fatigue. The reference period is the last month.

Vision and Hearing: Questions are on close and distant vision, hearing, and use of vision or hearing aids.

Chewing/Speaking: Persons are asked about problems with chewing or swallowing and problems in speaking or being understood when talking.

Symptoms of Pain and Fatigue: Persons are asked whether they are bothered by pain, activity limitations due to pain, frequency of medication for pain, and location of pain (back, hips, knees etc.). Persons are asked about having low energy or being easily exhausted and whether this limited their activities.

Physical Impairments and Severity: For a series of problems, respondents are first asked whether they experienced the problem in the last month and, if so, whether the problem limited their activities (adapted from Freedman et al. 2012). The following problems are asked about: breathing problems; limited strength or movement in shoulders, arms, hands; limited strength or movement in hips, legs, knees, or feet; balance/coordination.

Physical Capacity (PC)

Capacity measures represent the building blocks that underlie the ability to do more complex tasks like self-care or household activities. Capacity measures in NHATS include both self-report items, including traditional Nagi measures (1965), and performance-based measures (both physical and cognitive). For a more detailed discussion see Freedman 2009, and Freedman et al. 2011.

Items in this section ask about ability to do 12 activities in the last month. The items are paired as follows: walk 6 blocks (about ½ mile)/walk 3 blocks, walk up 20 stairs/walk up 10 stairs, lift and carry 20 pounds/lift and carry 10 pounds, kneel down without holding on to anyone or anything/bend over without holding on to anyone or anything, put a heavy object on a shelf overhead/reach up over head, open a sealed jar using hands only/grasp small objects. Persons who are able to do the first, and harder, activity in each pair, are not asked the second. Those who say “no” or “don’t know” to the first item, are asked the second.

Analyses from a Validation Study conducted prior to fielding Round 1 of NHATS showed that these items can be nested for purposes of administration and that a scale constructed from these items has good reliability and compares favorably with a scale using traditional Nagi items only (Freedman et al. 2011).

Cognition (Proxy) (CP)

Brief cognitive screening instruments are used in NHATS to provide measures of cognitive functioning (see CG section). When the interview is being administered to a Proxy Respondent the CP section is asked. In addition, an attempt is made to administer the cognitive functioning items to the sample person (see CG Section).

The CP section includes: (1) a rating of the person’s memory at the present time, (2) an 8-item screening instrument designed for administration to informants which differentiates between persons with and without possible dementia (the AD8), and (3) questions on behavior problems.

The AD8: The AD8 is an 8-item measure that was designed for administration to informants for purposes of identifying persons with possible dementia (Galvin et al. 2005, 2006). The items assess memory, temporal orientation, judgment, and function. The questions ask about “changes due to thinking and memory problems.” In clinical settings the instrument is typically administered to a family member and changes are in the context of “the last several years.” In NHATS this phrasing is used unless the proxy respondent is not a relative and has known the person for less than 1 year. Then the question is framed as “since you have known (sample person).” The AD8 is scored from 0-8 (1 = yes, a change; 0 = no, no change). For information on recommended cutpoints, sensitivity and specificity, and correlations with other dementia screening instruments, see Galvin et al. (2005, 2006).

For NHATS, an additional response (dementia/Alzheimers reported by proxy) was added to accommodate situations in which the proxy respondent indicates (in response to questions about “changes”) that there has been no change because the SP has dementia and, for example, does not remember the month or year. The NHATS recommendation is that these responses be scored as 1 for purposes of calculating the total score.

Behavior Problems: The proxy respondent is asked to report problems observed in the last year: 1) did he/she ever get lost in a familiar environment, 2) did he/she ever wander off and not return by himself/herself, 3) was he/she able to be left alone for an hour or so, and, 4) did he/she hear or see things that were not really there. These questions were drawn from the Health and Retirement Survey (administered to persons 65 and older starting in 1998, Ofstedal et al. 2005).

Cognition (Sample Person) (CG)

The NHATS Cognition section is designed to provide information about several aspects of cognitive functioning including memory (self-rated, whether memory interferes with daily activities, and immediate and delayed 10 word recall), orientation (date, month, year, day of week; naming President and Vice President), executive function (clock drawing test), and retrieval of information (delayed 10 word recall).

When a proxy interview is being conducted the proxy respondent is asked whether some questions about memory could be asked of the sample person. If the proxy declines, a reason is obtained (e.g. sample person has dementia/Alzheimer’s disease, is unable to speak or hear). If the proxy agrees, the CG section is administered to the sample person.

This section also includes items where the interviewer can note if there are problems in administration: difficulty hearing words read or interruption during reading of the words; whether the respondent used aids for tasks even when asked not to.

Self-Rated Memory: Persons are asked to rate their memory currently, how often memory problems interfered with daily activities in the last month, and how their memory is currently compared to 1 year ago.

Orientation to date: Respondents are asked “without looking at a calendar or watch, please tell me today’s date,” which includes the month, day, year and day of the week. Probes to elicit any component that was not volunteered are allowed (e.g. persons who give the month, day and year but not the day of the week are asked—do you know what day it is today?). The interviewer notes if the sample person looked at a calendar, newspaper, watch, or other aid for the date.

Immediate and Delayed 10 Item Word Recall: A list of 10 nouns is read to respondents as they appear on the computer screen. The person is asked recall as many words as possible, in any order. The respondent is given up to 2 minutes. Sample persons are randomly assigned to one of three lists that are fielded in the Health and Retirement Study (Ofstedal et al. 2005). (List assignments in subsequent years will rotate so that persons receiving list 1 in Round 1 will

receive list 2 in Round 2; those receiving list 2 will receive list 3; those receiving list 3 will receive list 1 and so on). The delayed word recall is administered after the President/Vice President naming and the Clock Drawing Test. Respondents are asked what words they recall from the list read earlier.

Orientation based on naming President and Vice President: Respondents are asked the names of the President and Vice President. Probes to obtain both the first and last names are allowed.

Clock Drawing: The respondent is given a sheet of paper and an erasable pen. They are asked to draw a clock on the piece of paper and the interviewer says, “Start by drawing a large circle. Put all of the numbers in the circle and set the hands to show 11:10 (10 past 11).” The respondent has 2 minutes to complete the activity. Interviewers may repeat the instructions as needed. See *Section III.I. Scoring Methodology for Clock Drawing Test* for details on the clock scoring methodology. PDFs of clock drawings also are available (NHATS Round 1 SP ClockDrawings File.pdf).

Mobility (MO)

The mobility (MO), self-care (SC), household activities (HA), and medical care activities (MC) sections include NHATS’ key measures of activity limitations (Freedman et al. 2011). For each activity, questions assess the extent to which the activity was done independently in the last month and the use of accommodations in the form of devices, environment, or assistance from others in the same time frame. A measure of difficulty when doing the activity independently (with devices and any modifications that have been put into place, if used) is also included. Questions about behavior change—changes in the frequency of the activity—and about unmet need (Allen & Mor 2007)—in the form of consequences related to difficulty or lack of help—also are asked in the MO and SC sections.

The MO section obtains measures in the last month of: going outside one’s home, getting around inside one’s home, and getting out of bed. It also provides a measure of life space constriction (how often SP has left the room where they sleep, left their private living space to go into the building, and left their home/building in the last month). Questions for each mobility activity are summarized in the table below:

Summary table of Mobility section questions by activity (going outside, getting around inside, getting out of bed)

Questions	Going Outside	Getting around inside	Getting out of bed
Frequency of doing activity	X	X	X*
Frequency of using mobility devices to do activity	X**	X**	X**
Who helps ¹	X	X	X
Frequency by self (without help)	X	X	X

How difficult by self (using mobility devices)	X**	X**	X**
Compared to a year ago does more or less often	X	X	-
Consequence because too difficult by him/herself or because no one there to help SP ²	X	X	X

*Persons who never leave their home or apartment are asked about leaving the room where they sleep.

**Devices reported in MD section.

¹ Individuals who are named as helpers are flagged and routed to the Helper Section (HL).

² Individuals who report difficulty or getting help or not doing the activity are asked about consequences.

Going outside one's home: Frequency of leaving one's home (or leaving one's building if living in a multi-unit residence, see RE Section) is asked first. Persons who go outside and reported in MD using a mobility device are asked frequency of mobility device use for going outside. Persons who go outside are also asked whether anyone helps with going outside and, if so, who that is. Frequency of going outside by oneself is asked; those who indicate they go outside by themselves are asked about difficulty by themselves (with devices, if used). Persons are then asked compared to a year ago whether they leave their home or building more often, less often or about the same. The final question asks persons who report difficulty, getting help, or who do not go out, whether in the last month they ever had to stay in because it was too difficult to go out by themselves (for those reporting difficulty or not going out) or because there was no one to help (for those reporting help all the time).

Getting around inside one's home (or building, if live in multi-unit building): Persons in multi-unit buildings are asked frequency of leaving their apartment or unit to go to other areas of the building. Persons who indicate they never leave their home (or never go to other areas of the building) are asked frequency of leaving the room where they sleep. Persons who reported in MD using a mobility device are asked frequency of using mobility devices to get around inside their home (or building). Individuals who report leaving the room where they sleep are also asked about frequency of holding onto walls or furniture when getting around inside. Persons are asked whether anyone helps with getting around inside and, if so, who that is. Frequency of getting around inside by oneself is asked; those who indicate they get around by themselves are asked about difficulty by themselves (with devices, if used). Persons are asked compared to a year ago whether they go around their home (or building) more often, less often or about the same. The final question, whether there are places in the home (or building) the person did not go in the last month because it was too difficult or no one was there to help, is asked if the person has difficulty, gets help, or does not go around inside.

Getting out of bed: Persons who report mobility device use in the MD section are asked the frequency of using these devices to get out of bed. Persons are asked whether anyone helps with getting out of bed and, if so, who that is. Frequency of getting out of bed by oneself is asked; those who indicate they get out of bed by themselves are asked about difficulty by themselves (with devices if used). The final question asks persons who report difficulty or help whether in the last month they ever had to stay in bed because no one was there to help him/her or it was too difficult by himself/herself.

Duration of Mobility Accommodations (DM)

This section assesses the duration of help and mobility device use in the last year and between age 65 and Round 1. For mobility activities (see MO Section), persons who reported help in the last month with either going outside, getting around inside, or getting out of bed (see MO Section) follow one path, while those who reported no help with all of these activities in the last month follow another. Similarly, persons who reported using a mobility device in the last month (see MD Section) follow one path, while those reporting no device use follow another. Assistance and device use when the person turned age 65 is asked, and for persons reporting no use in the last year, assistance and device use between age 65 and Round 1.

Persons who reported help in the last month: Persons are asked whether they have been getting help for a year or more. Those answering “yes” are asked for how many years. Those answering “no, less than a year” are asked in what month they first got help with any of these mobility activities.

Persons who reported no help in the last month: Persons are asked whether they ever had help in the last year with getting out of bed, getting around inside, or going outside. Those answering “yes” are asked in what month they last got help with any of these mobility activities.

Persons who reported using a mobility device in the last month: Persons are asked whether they have used mobility devices for a year or more. Those answering “yes” are asked for how many years. Those answering “no, less than a year” are asked in what month they first used these.

Persons who reported no mobility device use in the last month: Persons are asked whether they ever used mobility devices in the last year. Those answering “yes” are asked in what month they last used these.

At age 65 and since age 65: Persons are asked whether they had help with mobility activities or were using mobility devices around the time they turned 65. Persons skip this item if they reported “lifetime/since birth” (in response to “how many years” asked earlier) or have a duration of use/help that extends to age 65 or earlier. Persons with no device use or assistance in the last year are asked about use and assistance between age 65 and Round 1 interview.

Driving and Transportation (DT)

The Driving and Transportation section gathers information on the frequency of driving in the last month, (for persons who no longer drive, the date or age a person last drove), driving situations persons avoided in the last month (nighttime driving, driving alone, on busy roads or highways, in the rain or other bad weather), and other ways someone got around in the last month (walking, getting a ride, using a van/shuttle provided by residence, using van/shuttle for seniors or persons with disabilities, public transportation, taxi, other). If the sampled person

got rides from others in the last month, who gave rides (up to 2 people) and the relationship of these individuals to the sample person are asked.

Other sections collecting information related to transportation

Participation (PA):	Questions are asked about whether transportation problems ever kept someone from doing selected activities in the last month.
Medical Care (MC):	Persons are asked how they get to their regular doctor.
Household Activities (HA):	Persons are asked how they get to the store to shop for groceries or personal items.
Service Environment (SE):	If sample person is in residential care (other than nursing home) services available and used
Environmental Checklist (IR):	Conditions inside and outside the home
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at sample person's level of care; payment information in last month

Household Activities (HA)

This section provides detailed measures of the following Household Activities in the last month: laundry, shopping for groceries or other personal items, making hot meals, handling bills and banking, and handling less common money matters. These activities (and handling prescribed medicines in the MC Section) are typically included in measures of instrumental activities of daily living (Lawton & Brody 1969).

Summary table of Household Activity section questions by how the activity(laundry, shopping, hot meals, banking and bills) was done in the last month

Questions	Always did it by self	Always did it together with someone else	Someone else always did it	It Varied		Not Done
				Did by self	Never did by self	
Questions specific to the type of activity (see text below)	X	X	X	X	X	
Who did activity with or for person ¹		X	X	X	X	
Reason someone else did activity for or with SP or reason not done: health/functioning, other, both		X*	X*	X*	X*	X**
How difficult to do by self	X			X		
Compared to a year ago does by self more or less often	X	X		X		
Consequence because too difficult by him/herself or	X	X	X	X	X	X

because no one there to help ²						
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*Not asked if person who helps is staff person from place the person lives.

** If not done, “Was that because of your health or functioning or some other reason?”

¹Individuals who are named as helpers are flagged and routed to the Helper Section (HL).

² Individuals who report difficulty, getting help for health/functioning reasons, getting help from someone in residential care setting where they live, or not doing the activity are asked about consequences.

For each activity, the sequence opens with a question on how the activity was done in the last month: always did activity by self, always did it together with someone else, someone else always did it, it varied. (Persons can also volunteer that the activity was not done in the last month.) These responses are on a card shown to the respondent and are also read by the interviewer. As shown in the table above, subsequent questions flow from these responses. Validity and reliability of measures of limitations in these activities using NHATS items is reported in Freedman et al. (2011).

The general sequence is the same for laundry, shopping for groceries or personal items, making hot meals, handling bills and banking. The sequence for handling less common money matters differs and is described below (see questions specific to activity).

Always did activity by self: Persons in this category are asked how difficult doing the activity is; compared to a year ago whether they do the activity more or less often; and if they report difficulty, whether there was a consequence because the activity was too difficult to do by him/herself.

Always did it together with someone else: Persons are asked who did the activity with them and—unless the helper was a staff person from the place the sample person lives—whether this was because of health or functioning or some other reason. Also asked is whether compared to a year ago persons do the activity more or less often, and (if help was for a health or functioning reason or helper was a staff person from the place the person lives) whether in the last month a particular consequence occurred because there was no one to help or do that for the SP.

Someone else always did it: Persons are asked who did the activity for them. Whether this was because of health or functioning or some other reason is asked unless the helper was a staff person from the place the person lives. Also asked (if help was for a health or functioning reason or helper was a staff person in place person lives) is whether in the last month a particular consequence occurred because there was no one to help or do that for the SP.

It varied: Persons are asked whether, in the last month, they ever did the activity by themselves. Both response groups (yes/no) are asked who did the activity with or for them and—unless the helper was a staff person from the place the person lives—whether this was because of health or functioning or some other reason.

Those who say “yes” (ever did the activity by themselves) are asked: how difficult it is to do the activity by themselves; compared to a year ago whether they do the activity by themselves more or less often; and whether there was a particular consequence in the last month because

it was too difficult to do by him/herself. These questions parallel those for persons who “always did activity by self.”

Those who say “no” (never did activity by themselves) and report that help was for a health or functioning reason or the helper was a staff person from the place the person lives are asked whether in the last month the activity could not be done because there was no one to help or do that for SP. This question parallels the final question for persons who responded “always did it together with someone else” or “someone else always did it.”

Not done in last month: These persons are asked whether the activity was not done for a health or functioning reason or other reason. If the reason was health or functioning, they are asked whether in the last month there was a particular consequence because it was too difficult to do by him/herself.

Questions specific to activity

Each activity also has questions specific to the activity.

Laundry: where laundry is done

Shopping for groceries or personal items: how groceries or personal items are paid for (cash, check, debit card, credit card); how the sample person got to the store to shop (transportation options); whether a motorized cart was used when at the store; whether the sample person leaned on the shopping cart to help get around the store

Making hot meals: how often hot meals were restaurant meals, including eat-in, take-out or delivered meals (not including meals provided as a service at the place person lives); how often used microwave oven to make hot meals

Handling bills and banking: none

Handling less common money matters: Persons are asked whether in the last year, money matters—opening, closing or cashing in CDs, checking, money market or retirement accounts or applying for loans—needed handling. If the answer is “yes,” persons are asked whether anyone helped with these and, if so, who. These individuals are flagged as helpers and routed to the Helper Section.

Reasons for help

When someone does the activity with or for the person, or the activity has not been done in the last month, persons are asked whether that is because of the SP’s health or functioning or some other reason. One or both options may be selected.

In a validation study conducted prior to the NHATS baseline, lengthy lists of both health or functioning reasons and other reasons were provided for interviewers. Results from the validation study suggested that a small number of responses are commonly given in addition to saying “health or functioning” or “other reason.” These responses are shown as onscreen aids to assist interviewers in coding. Responses of age; memory; vision; mention of specific health

conditions, diseases, or surgery; or unable to drive are shown as responses that should be considered “health or functioning” reasons. Responses of: shared activity, always done this way, someone else wanted to do it, pay someone, doesn’t like to do it, are shown as responses that should be considered “other reasons.”

Other sections collecting information related to Household Activities

Technology (TE):	This section asks about going on the Internet or online in the last month to: shop for groceries or personal items, pay bills or do banking, order or refill prescriptions, contact his/her medical providers, handle Medicare or other insurance matters, or get information about the his/her health conditions.
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Self-Care Activities (SC)

For each activity in the self-care section, questions are structured to provide insight into the extent to which the activity is done independently and the use of accommodations in the form of devices, environment, or assistance from others. Questions about behavior change—changes in the frequency of the activity—and unmet need (Allen & Mor 2007)—in the form of consequences related to difficulty or lack of help—also are asked. For a more detailed discussion see Freedman (2009) and Freedman et al. (2011).

Activities in the self-care section include: eating, getting cleaned up, using the toilet, and dressing. These activities (together with walking around inside or getting out of bed) are typically included in activities of daily living (Katz et al. 1963; 1970).

Summary table of Self-care section questions by activity (eating, getting cleaned up, using the toilet, dressing)

Questions	Eating	Getting cleaned up	Using the toilet	Dressing
Used equipment/devices to do	X			X
Frequency of using equipment/devices	X	X*	X*	X
Help with activity	X	X	X	X
How often by self and without help	X	X	X	X
Who helps ¹	X	X	X	X
How difficult by self (using equipment/devices) and without help	X	X	X	X
Compared to a year ago does by self more or less often		X		X
Consequence because too difficult by him/herself or no one there to help SP ²	X	X	X	X

*Use of equipment/devices is reported in HO section.

¹Individuals who are named as helpers are flagged and routed to the Helper Section (HL).

² Individuals who report difficulty, or getting help, or not doing the activity are asked about consequences.

The general sequence for each activity covers whether devices are used to do the activity and frequency of use, whether there is help with the activity and who provides it, frequency of doing the activity by oneself, difficulty doing the activity, and whether the activity did not get done in the last month because of difficulty or lack of help.

Eating: Persons are asked whether in the last month they used adapted utensils to eat and, if yes, frequency. Everyone is asked whether anyone ever helped them eat, for instance, by cutting up food or feeding them and, if so, who helps. Persons are asked how often they ate without help, and how much difficulty they had eating—with adapted utensils if used—by themselves and without help. Persons who get help or have any difficulty are asked whether in the last month they ever went without eating because there was no one there to help or because it was too difficult to feed themselves.

Getting Cleaned Up: Persons are asked how, in the last month, they usually clean up— by taking a shower, bathing in a tub, or washing up some other way— and, if more than one is named, which they did most often. Persons who reported using grab bars to shower or bathe (see HO Section) are asked frequency of using grab bars; those who reported using bath or shower seats (see HO section) are asked frequency of using these. Everyone is asked whether in the last month anyone ever helped them shower/bathe/wash up and, if so, who helped. Persons are asked how often they got cleaned up without help, and how much difficulty they had —with grab bars or shower/tub seats if used—by themselves and without help. Persons are asked compared to a year ago whether they get cleaned up more or less often. Those who get help or have any difficulty are asked whether in the last month they ever went without showering/bathing/washing up because there was no one there to help or it was too difficult to do that by themselves.

Using the Toilet: Persons are asked whether in the last month they used: a portable commode, disposable pads or undergarments, grab bars around the toilet (if in the home, see HO Section), raised toilet or raised toilet seat (if in the home, see HO Section). Everyone is asked whether in the last month anyone ever helped them use the toilet. Persons are asked how often they used the toilet by themselves and without help, and how much difficulty they had —with grab bars or raised toilet/toilet seat if used—by themselves and without help. Those who get help or have any difficulty are asked whether in the last month they ever accidentally wet or soiled their clothes because there was no one there to help or it was too difficult to get to or use the toilet by themselves.

Dressing: Persons are asked how often they got dressed in the last month and whether they used any special items to get dressed, such as a button hook, reacher or grabber, or clothes that are designed to get on and off easily. Everyone is asked whether in the last month anyone ever helped them get dressed. Persons are asked how often they got dressed by themselves and without help, and how much difficulty they had —with special items for dressing if used—by themselves and without help. Persons are asked compared to a year ago whether they get dressed more or less often. Those who get help, have difficulty, or did not get

dressed are asked whether in the last month they ever went without getting dressed because there was no one there to help or it was too difficult by themselves.

Duration of Self-Care Accommodations (DS)

This section assesses the duration of help with self-care activities (eating, getting cleaned up, using the toilet, or getting dressed) in the prior year and between age 65 and the Round 1 interview. Like the earlier section on duration of mobility accommodations (see DM Section), persons who reported help in the last month follow one path, while those who reported no help with these activities in the last month follow another. A final question asks about help when the sample person “turned 65.”

Persons who reported help in the last month: Persons are asked whether they have been getting help for a year or more. Those answering “yes” are asked for how many years. Those answering “no, less than a year” are asked in what month they first got help with any of these self-care activities.

Persons who reported no help in the last month: Persons are asked whether they ever had help in the last year with eating, getting cleaned up, using the toilet, or getting dressed. Those answering “yes” are asked in what month they last got help with any of these activities.

At age 65 and since age 65: Persons are asked whether they got help with self-care activities around the time he/she turned 65. Persons skip this item if they reported “lifetime/since birth” (in response to “how many years” asked earlier) or have a duration of help that extends to age 65 or earlier. Persons with no help with self-care in the last year are asked about use and assistance between age 65 and Round 1.

Medical Care Activities (MC)

This section covers: how the sample person handles their prescription medicines, how doctor visits are managed, and how medical bills and insurance are handled. The items on prescription medicines are structured like those for Household Activities (HA). Questions about doctor visits cover how persons get to the doctor, who goes along, and whether anyone sits in on the visit with the sample person. The questions on medical bills and insurance focus on assistance from others.

Prescription Medicines: The first question asks whether the sample person takes any medicines prescribed by a doctor. Those answering “no” skip to the next set of questions on how doctor visits are managed. Persons taking medicines are asked whether they: always did

activity by self, always did it together with someone else, someone else always did it, it varied, or not done in last month (see HA section).² Subsequent questions flow from these responses.

Summary table of questions on handling medications by how activity was done in the last month

Questions	Always did it by self	Always did it together with someone else	Someone else always did it	It Varied	
				Did by self	Never did by self
Where medicines from; how obtained; frequency of using reminders	X	X		X	X
Who kept track with or for person ¹		X	X	X	X
Reason someone else did for or with SP or not done: health/functioning or other reason		X*	X*	X*	X**
How difficult to keep track by self	X			X	
Compared to a year ago does by self more or less often	X	X		X	
Consequence because too difficult by self/no one there to help or do for SP ²	X	X	X	X	X

*Not asked if person who kept track with or for the sample person is staff from place sample person lives.

** If not done, asked as “Was that because of your health or functioning or some other reason?”

¹ Individuals who are named as helpers are flagged and routed to the Helper Section (HL).

² Individuals who report difficulty, or getting help for health/functioning reasons or from someone at the place they live, or not doing the activity are asked about consequences.

Always did activity by self: Persons are asked where medicines are from; how they are obtained; and frequency of use of reminders to keep track; how difficult it is to keep track of medicines by themselves; compared to a year ago whether they keep track by themselves more or less often; and whether a mistake was ever made in the last month because it was too difficult to keep track.

Always did it together with someone else: Persons are asked where medicines are from; how they are obtained; frequency of use of reminders to keep track. In addition, they are asked who kept track of their medicines with them and—unless the helper was a staff person from the place the sample person lives—whether this was because of health or functioning or some other reason. Also asked is whether compared to a year ago, persons keep track by themselves more or less often and (if help was for a health or functioning reason or helper was a staff person in place person lives) whether in the last month a mistake in taking medicines was made because no one was there to help or keep track of medicines for them.

² In Round 1 interviewers could select either health/functioning or other reason but not both (unlike for activities in the HA section). This inconsistency has been corrected in Round 2. See MC section of derived variable table for details.

Someone else always did it: Persons are asked who kept track of their medicines for them. Whether this was because of health or functioning or some other reason is asked unless the helper was a staff person from the place the sample person lives. If help was for a health or functioning reason or helper was a staff person in place person lives, persons are asked whether in the last month a mistake in taking medicines was made because no one was there to help or keep track of medicines for them.

It varied: Persons are asked whether, in the last month, they ever kept track of their medicines by themselves. Both response groups (yes/no) are asked: where medicines are from; how they are obtained; frequency of use of reminders to keep track. In addition, they are asked who kept track of their medicines with them and—unless the helper was a staff person from the place the sample person lives—whether this was because of health or functioning or some other reason.

Those who said “yes” (ever kept track of their medicines by themselves) are asked: how difficult it is to keep track of medicines by themselves; compared to a year ago whether they keep track by themselves more or less often; and whether a mistake was ever made in the last month because it was too difficult to keep track by him/herself. These questions parallel those for persons who “always did activity by self.”

Those who said “no” (never kept track of medicines by themselves) and reported that help was for a health or functioning reason or helper was a staff person in place person lives are asked whether in the last month a mistake in taking medicines was made because no one was there to help or keep track of medicines for them. This question parallels the final question for persons who responded “always did it together with someone else” or “someone else always did it.”

Not done in last month: These persons are asked whether the reason keeping track of medicines was not done was for health or functioning or other reasons. If the reason was health or functioning, they are asked whether in the last month they did not keep track because it was too difficult to do.

Medical Care: Respondents are asked if the sample person has a regular doctor and if that doctor (or any doctor if no regular doctor is reported) has been seen in the last year. Persons who have not seen a doctor in the last year are routed to the Medical Bills and Insurance Questions. All others are asked about means of transportation to the doctor, whether anyone sits in with the person on doctor visits and, if so, who that is (who does it most often if more than one person named). Individuals who are named as “sitting in on doctor visits” are flagged and routed to the Helper Section (HL) (except for those who are staff persons from the place the person lives). The last question is about what the person who sits in on the visit does: helps with getting on exam table or dressing, reminders to ask doctor, asks doctor questions, or helps the sample person to understand what the doctor was saying.

Medical Bills and Insurance: If respondents report a change to a Medicare supplemental plan, a prescription drug plan, or managed care enrollment in the last year, they are asked if

anyone helped with these decisions. Individuals who are named as helpers are flagged and routed to the Helper Section (HL) (except for helpers who are a staff person from the place the person lives).

Other sections collecting information related to Medical Activities

Technology (TE):	This section asks about going on the Internet or online in the last month to: shop for groceries or personal items, pay bills or do banking, order or refill prescriptions, contact his/her medical providers, handle Medicare or other insurance matters, or get information about the his/her health conditions.
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Participation (PA)

These questions reflect participation in activities that are elective but valued (Freedman 2009). Questions are asked about participation (yes/no) in activities in the last month, whether health or transportation problems ever kept the person from doing the activity, and how important it is to the SP to do the activity. Freedman et al. (2011) confirmed the reliability of the participation measures in the form of a scale; reliability of individual items varies.

Activities with full sequence: The full sequence—was the activity done, did health or functioning ever keep person from doing, did transportation problems ever keep person from doing, how important is it to do—is asked for: visiting in person with friends or family not living with person; attending religious services; participating in clubs, classes or other organized activities; and going out for enjoyment (dinner, a movie, to gamble, hear music or see a play).

Activities with selected follow-up: For both “work for pay or in a business” and “doing volunteer work,” only whether the activity was done and, if so, whether health or functioning ever kept someone from doing the activity are asked. Persons who report “providing care for or looking after an adult or child who cannot care for themselves” are asked who that person is and how they are related to the sample person.

All persons are asked whether in the last month they ever “walked for exercise” or “did vigorous activities (e.g. working out).” A last question asks respondents to identify a favorite activity (entered as open text); they are asked whether health or functioning ever kept them from doing this activity in the last month.

Smoking (SD)

The Smoking section captures cigarette smoking status (current, past, never smoked), amount if smoked (cigarettes per day) and duration of smoking (age started or stopped). Smoking status is defined by the response to “ever smoked cigarettes regularly, at least 1 cigarette a day.” These items allow measures of pack years and number of years smoking to be calculated.

Performance Activities Eligibility (PE)

The NHATS includes physical performance activities (walking, balance, chair stands, grip strength, peak air flow) as well as waist circumference. Some of these activities should not be attempted by individuals under certain circumstances. This section is administered to determine which activities the respondent should be asked to try.

Exclusion criteria: Questions are asked to determine which activities persons will be asked to do. Exclusion criteria by activity are:

- Grip strength: surgery, or flare up of pain, in both hands or wrists; surgery to both arms or shoulders within last 3 months
- Walking 3 meters: uses a wheelchair or scooter every time to get around inside home (see MO Section); unable to walk a short distance by self (using mobility devices)
- Chair stands: person unable to get up from chair without using mobility devices or help; surgery on both hips within 3 months
- Balance stands: person who always uses a mobility device to get out of bed (see MO Section) or never got out of bed by self (see SC Section) says he/she is unable to stand without holding on to anyone or anything
- Peak air flow: none
- Waist circumference: none

This section also indicates which hand should be used for the grip strength activity (dominant hand unless exclusion criteria apply to that hand). Persons who always use a cane or walker inside the home (see MO Section) are told they may use their cane or walker for the 3 meter walking activity. Whether the device was used is recorded in the Performance Activities Booklet.

Performance Activities Booklet (AB)

The results of the performance activities are recorded in the Performance Activities Booklet which is mailed in by interviewers and scanned for data entry. Before each activity the interviewer reads a description of the activity and demonstrates the activity for the respondent. The interviewer then asks the respondent whether he/she “thinks it would be safe to try this.” If the respondent does not feel safe, the interviewer does not feel the activity would be safe, or a proxy does not feel the activity would be safe, this is recorded and that activity is skipped. Other reasons that an activity is not attempted also are recorded and include: respondent does not understand instructions, could not find appropriate chair (for chair stands) or ample space (for walking course).

Balance activities: There are 5 balance activities —side-by-side, semi-tandem, full tandem, one leg eyes open, one leg eyes closed. Persons are asked to hold the two-leg stands for 10 seconds and the one leg stands for 30 seconds. Whether the activity was completed (yes/no) is

recorded. These stands progress from easy (side-by-side) to hard (one leg eyes closed). Persons move on to the next balance activity if they complete the prior (easier) one.

Chair stands: Persons first do a single chair stand (getting up and sitting back down without using arms). Whether the activity was completed (yes/no) is recorded. Persons who complete the single chair stand are asked to attempt the repeated chair stand. Persons are asked to do 5 repeated chair stands as quickly as they can. Time to complete the activity is recorded.

Walking: A 3 meter walking course is laid out on a level surface. Persons are timed as they walk from the start to finish and timed again on the return. Both times are recorded, along with whether any mobility device was used.³

Grip strength: Persons are given a dynamometer and asked to squeeze as hard as they can. The reading on the dynamometer is recorded. The activity is done twice.

Peak air flow: Persons are asked to blow into a peak air flow meter. The reading on the meter is recorded. The activity is done twice.

Waist circumference: A tape measure is used to measure waist circumference while the person is standing (or sitting if they are unable to stand).

The performance activities included in NHATS and the protocols for administration draw on several prior studies including the Women's Health and Aging Study (Simonsick et al. 1997), the Established Populations for Epidemiologic Studies of the Elderly, and the Health and Retirement Study. The walking, balance activities, and chair stands are components of the Short Physical Performance Battery (SPPB) (Guralnik et al. 1994; 2000). Summary scores for each performance activity, and two versions of the SPPB (NHATS Expanded SPPB and Original) have been constructed for analysts. See *III.H. Derived Variables* and Kasper, Freedman and Niefeld (2012) for more information.

Height and Weight (HW)

This section obtains self-reported current height and weight, height and weight at age 50, and unintentional weight loss (lost 10 pounds or more in the last year and not trying to lose weight).

Early Life (EL)

The Early Life section covers selected life experiences. Topics in this section are:

- Place of birth (state if US, country otherwise);

³ Individuals who use walking devices (a cane or walker) all the time to get around indoors, and those who use them only sometimes but who do not feel it would be safe to try the walking course without such devices, are told that they may use their device.

- If not born in US, year or age the person came to live in the US;
- Health as a child (excellent, very good, good, fair, poor);
- How well off financially when growing up;
- Lived with both parents at age 15; if not, lived with mother, father, other relatives or nonrelatives;
- Residence at age 15 (city/town, state);
- Education
- Mother and father still living; if not, age at death.

Race, Ethnicity, and Language (RL)

This section collects race (multiple categories are allowed and respondents are asked to select a primary race in these cases). Hispanic ethnicity and subgroups (Mexican American/Chicano, Puerto Rican, Cuban American, Other) are obtained. The NHATS Interview has been translated into Spanish and administration in Spanish is documented. Three questions on language are included: whether the sample person speaks a language other than English (not asked for Spanish language administration), how well the person understands English when spoken, how well he/she speaks English (very well, well, not well, not at all).

Veteran's Status (VA)

The Veteran's Status section asks: whether the person served on active duty in the Armed Forces of the United States, periods of service on active duty, and whether the person was an active member of the National Guard or a military reserve unit.

Periods of service on active duty follow those recommended for the American Community Survey (ACS) by a joint VA-Census Bureau Committee. NHATS periods of service are identical to those in the 2010 ACS with two exceptions: the May 1975 to August 1980 and September 1980 to July 1990 are collapsed to May 1975 to July 1990; the February 1955 to February 1961 and March 1961 to July 1964 are collapsed to February 1955 to July 1964.

Well-Being and Age Identity (WB)

The Well-Being section obtains information about positive and negative affect (frequency of feelings in the last month e.g., cheerful, bored, full of life, upset), self-realization (agreement with statements about life: life has meaning and purpose, feel confident and good about self, gave up trying to improve life long ago, likes living situation), age identity (age person feels), and self-efficacy and resilience (agreement with statements: other people determine activities, I do what I want, I adjust easily to change). The section draws on similar items that have appeared in MIDUS (Midlife in the U.S. A Study of National Health and Wellbeing). Reference periods and response categories differ across studies that have used these items. NHATS uses "last month" as the reference period and, in general, fewer response categories.

The WB section is not asked of proxy respondents.

Insurance Plans (IP)

Questions are asked about prescription drug coverage, Medigap or Medicare supplemental insurance, Medicaid coverage, and coverage under TRICARE. Questions on long-term care insurance ask whether: “not including government programs, persons have any insurance that would pay for a year or more of care in a nursing home, assisted living, or in their own home.” Those who answer “yes” are asked what types of care are covered, premium amount in the last calendar year, and how long they have had the policy (in either years or age at purchase).

Labor Force (LF)

This section is designed to provide a measure of labor force participation – employed, unemployed, not in the labor force—consistent with definitions produced by the Current Population Survey. Work-related income in the past month is asked for persons and their spouses/partners (see IA Section for other income sources and amounts). For those working, hours worked, paycheck schedule, and paycheck amounts are asked. Persons who are in residential care for purposes of data collection and who said in the PA Section that they had not worked for pay or in a business they own last month are not asked questions about labor force participation.

All persons are asked about their longest held occupation (the work they did most of their lives).

Home Ownership (HP)

Questions are asked about home ownership for all sample persons except those in residential care settings. Topics covered are: whether persons own or rent their home; details about mortgages (if the mortgage is paid off, monthly payment amounts, time left until mortgage is paid off, mortgage balance), and the present value of the home. Assets (and their worth) other than a home are collected in the IA Section. For persons who rent, monthly payment amount is asked. Persons whose monthly rent is less than \$500 are asked if their home is Section 8 or public housing or housing for low-income seniors.

Income and Assets (IA)

The Income and Assets section collects information on: sources of income (except for earned income, see LF Section), income amounts by source and total income from all sources, major assets (other than home ownership, see HP section, and car ownership, see CO section), and the current value or worth of major assets. Other information in this section includes: whether Social Security is received by mail or direct deposit, and the year and month person started receiving Social Security.

Time Frame: Many questions are framed in terms of “last month.” In this section last month refers to the full month prior to the interview month (e.g. for interviews in May, the last month would be April). A few questions are framed in terms of “last year,” meaning the previous calendar year (e.g. for interviews in 2011, calendar year 2010).

Response Options: In order to make responding to the IA questions easier several steps were taken. First, respondents were invited in the opening of the IA section to “Please feel free to refer to any records or other persons that may be of assistance in answering these questions.” Second, in the case of couples, the respondent could choose how to report each income source or asset: jointly (e.g. joint checking), separately (his and her retirement accounts), or some combination of the two (joint checking and her savings). Third, although questions on income amounts and asset values ask for a dollar amount, interviewers could follow-up as needed with a statement that “We don’t need an exact dollar amount. The nearest \$100/\$1000 is fine.” (The amount varies by type of income and asset). This indicated to the respondent that precision to the exact dollar was not expected.

Don’t Know responses: Income and assets are often sensitive topics and nonresponse tends to be higher for these types of questions. NHATS has addressed this issue in two ways: 1) a statement that explains why this information is needed is in the introduction to the IA Section and can be repeated by the interviewer as needed; 2) use of show cards with bracketed ranges for dollar amounts tailored to types of income and assets when respondents do not provide a dollar amount. Most surveys use a bracketing approach—either unfolding (as in the Health and Retirement Survey) or fixed ranges (as in the Survey of Consumer Finance)—to reduce missing data for responses that ask for answers in dollars. NHATS used 5 fixed brackets with separate ranges for single persons and couples. The ranges were developed based on data from the Survey of Consumer Finance for 2007 adjusted to 2011 dollars.

Summary table of elements in the IA section and location of other income/asset information

Sources of Income and Income Amounts¹	Time frame	Section if not IA
Social Security	Last Month	
Supplemental Security Income (SSI)	Last Month	
Veteran’s Administration	Last Month	
Pension plan	Last Month	
Earned Income (SP and Spouse/Partner)	Last Month/Last Paycheck	Labor Force (LF)
Interest/dividend income from any: mutual funds/stocks, bonds, bank accounts, or CDs	Last Year	
Total income from all sources	Last Year	
Assets and Value¹		
Retirement accounts	Current worth/amount withdrawn last month/amount withdrawn last year	
Mutual funds or stocks	Current worth	
Bonds	Current worth	
Checking account	Current worth	
Savings account	Current worth	
Certificates of Deposit	Current worth	
Business, farm or real estate (besides home)	Current worth	

Home	Current worth/current outstanding mortgage balance	Home Ownership (HP)
Cars/other vehicles	Current worth	Car ownership (CO)

¹The allowable range for income amounts and asset values began at \$1, rather than \$0, so in cases where the response was \$0, interviewers were instructed to enter \$1 and indicate in a note that the true value was zero.

Car Ownership (CO)

Questions are: whether any cars, trucks, or vans are owned, the number of vehicles owned, and their present value. Other assets (and their worth) are included in the IA Section and the HP section.

Economic Well-being (EW)

This Section asks about some types of debt, financial gifts from sample persons to relatives and from relatives to sample persons, and participation in government assistance programs.

Debt: Questions cover whether credit card balances are paid off each month and the total balance owed on all cards. Whether any amount owed on credit cards is for medical care and the amount owed is asked. Respondents also are asked whether any medical bills are being paid off over time and, if so, the amount.

Financial gifts to and from the sample person: Persons are asked whether in the previous calendar year they received “any financial help or financial gifts from children or other relatives either regularly – like every month—or just every so often as needed.” Who helped out is asked and for children the specific child is identified. An amount for the previous calendar year is asked. These questions are repeated for financial help or gifts from sample persons to children or other relatives. Grandchildren are coded separately from children and other relatives.

Government assistance: For individuals living in the community (not residential care)⁴, participation in the last year in food stamps, food assistance such as Meals-on-Wheels, and energy assistance programs is asked.

Helpers (HL)

This section is designed to obtain information about persons identified in earlier sections as Helpers with activities. Questions are asked about each person who is identified as a “helper” with activities in: Mobility (MO), Driving and Transportation (DT), Household Activities (HA), Self Care Activities (SC), and Medical Care Activities (MC). NHATS identifies as “helpers” people who in the last month have carried out a household activity or medical care-related activity

⁴ This skip has been removed for future rounds of NHATS.

with or for a sample person, given rides to the SP, sat in on doctor visits, or helped with mobility or self-care activities. This information can be used to characterize the involvement of others in meeting the demands of routine daily activities and, when help is for health or functioning-related reasons, understanding how help from others bridges the gap between individual capacity and doing necessary activities.

The Helper section questions are not asked of persons identified as staff persons at the place where a sample person lives.

Activities where Helpers can be identified:

- Getting around outside, getting around inside, getting out of bed (MO Section)
- Persons who give the sample person a ride to get to places (DT Section; two persons can be identified)
- Laundry, shopping for groceries or personal items, preparing hot meals, handling bills and banking, less common money matters (HA Section)
- Eating, getting cleaned up, using the toilet, getting dressed (SC Section)
- Keeping track of medications, sitting in on doctor visits, making decisions about insurance (MC Section)

Helper characteristics: Relationship of the helper to the sample person is obtained when a person is identified as helping with an activity. Questions in the HL Section obtain information on whether the person helping has a regular schedule or whether it varies. If regular schedule, days per week and hours per day (on days when help is provided) are asked. Otherwise, days in the last month and hours per day (on days when help is provided) are asked. For helpers other than spouses/partners, whether the helper is paid and who pays (family, government program, insurance, other) is asked. If the person or his/her family pays, the amount last month is asked. This can be reported as an hourly rate, a weekly rate or a monthly rate. If a government program is named as a payer, the type of program is asked (Medicaid, Medicare, a state program or something else).

NLTCS Questions (LS)

NHATS has included items from the National Long-Term Care Survey (NLTCS) screener as a means of providing a cross-walk between NLTCS disability prevalence estimates and estimates based on NHATS. The source of the NLTCS items is the 2004 NLTCS Screener.

Environmental Checklist (IR)

Interviewers recorded their observation of conditions inside and outside the home: conditions in the home (flaking paint, pests, broken furniture, flooring, tripping hazards, clutter), the environment around the home (litter, graffiti, vacant houses, foreclosure signs), and of the home's exterior (windows, foundation, outside of home, roof, walking surfaces).

Other sections collecting information on place sample person lives

Residence (RE):	Physical structure of residence
Housing Type (HT):	Length of residence and type of place
Service Environment (SE):	If sample person is in residential care (other than nursing home) services available and used
Home Environment (HO):	Features of the home environment
Environmental Modifications (EM):	Whether features of the home environment were added and out-of-pocket costs if so; out of pocket costs for other devices for daily activities
Facility Questionnaire (FQ):	If sample person is in residential care (including nursing home) services available at place and at the sample person's level of care; payment information in last month

Interview Environment (IR)

Selected items from the Interviewer Remarks section related to the circumstances of the interview are included: SP's attitude toward the interview; how much of the interview SP was present for; was anyone else helping to answer questions and if so, who; was the interview completed in more than one session and if so, the reason; was the FQ completed in person or by telephone

Facility Questionnaire (FQ)

The FQ collects information about the place the person lives when the residence is a nursing home or other residential care setting (see *Section I.C. Data collected by residential status and Section II.Introduction*). Questions focus on: the type of place; whether the part of the place where the person lives has a different name from the overall place; for persons in settings where there could be more than one level of care, whether the person lives in independent living, assisted living, special care/memory care/Alzheimer's unit, nursing home; other levels of care available at place; services available to people at the sample person's current level of care; services that are part of the person's service package; whether there are extra charges for each service available; sources of payment in the last month for person's care and total payment by each source; total monthly payment for care; primary source of payment for care.

When the FQ is administered: The FQ is administered for all nursing home residents. The FQ also is administered for SPs in other residential care settings or supportive living environments. Usually the SP interview is conducted first, and responses to items in Housing Type (HT) indicate whether the SP is in a setting where an FQ should be administered. This approach casts a wide net that includes not only assisted living facilities, but other supportive living environments (independent living within a CCRC or retirement community) that have

services available to residents. In places where an appropriate staff person cannot be identified the FQ is not administered.

Other sections collecting information on place sample person lives

Residence (RE):	Physical structure of residence
Housing Type (HT):	Length of residence and type of place
Service Environment (SE):	If sample person is in residential care (other than nursing home) services available and used
Home Environment (HO):	Features of the home environment
Environmental Modifications (EM):	Whether features of the home environment were added and out-of-pocket costs if so; out of pocket costs for other devices for daily activities
Environmental Checklist (IR):	Conditions inside and outside the home

III. Data Documentation

III.A. Overview of Public Use Data Files and Documentation

The NHATS Round 1 data release consists of three public use data files:

- (1) the Tracker file
- (2) the Sample Person (SP) file, and
- (3) the Other Person (OP) file.

The files may be linked to one another using the unique variable, “spid” (Sample Person ID).

The Tracker File (N=12,411)

The tracker file provides information on the total sample selected for the study (see Montaquila, Freedman, Edwards and Kasper, 2012, for details on sample design). The file includes respondents, non-respondents, ineligible cases (those who moved outside the study area prior to interview), and cases who died after September 30, 2010 (when the sample was drawn) and prior to interview. Going forward, this file will include variables on the status of Round 1 respondents at each subsequent round of NHATS.

Variables in the tracker file indicate the year SP entered the sample, the final case status, month and year the final case status was assigned. Indicators for the SP and FQ interview status and month and year SP and FQ interview were administered are also included.

A tracker weight that adjusts for differential non-response is included in this file (for respondents, ineligibles, and deaths) and may be used to make disability estimates with the full sample of 8,245 cases. Replicate weights are provided, as are base weights that reflect probabilities of selection but without nonresponse adjustment. See *Section IV. NHATS Weights and Their Use* for further details.

The Sample Person (SP) File (N=8,245)

The SP file contains all data on NHATS respondents collected in the Sample Person (SP) interview, including the Performance Activities Booklet, and the Facility Questionnaire (FQ) interviews. All respondents with an SP interview and respondents residing in nursing homes with an FQ interview have a positive weight (n=8,077), and weights for persons in residential care with both an SP and FQ interview have been adjusted for a small number of respondents in residential care who are missing an SP interview (n=168). An analytic weight and replicate weights with nonresponse adjustment are provided. See *Section IV. NHATS Weights and Their Use* for further details.

The Other Person (OP) File (N=38,097)

Each record in the OP file represents a person identified in the SP interview. Individuals are identified based on one or more of the following roles relative to the SP (section where roles are identified shown parenthetically):

- a proxy respondent (IS),
- spouse/partner (HH),
- household member (HH),
- child or stepchild not in SP's household (CS),
- social network member (SN),
- helper with mobility (MO), driving and transportation (DT), self-care (SC), household activities (HA), medical care activities (MC),
- a person SP takes care of (PA)
- a contact person, i.e. someone outside of SP's household who could get in touch with SP (Closing Section: CL).

The type of information collected varies, depending on the reason the person was identified. For further details see *Section III.B. The Other Person File*.

Instruments, Codebook, Crosswalk File, and Data Collection Procedures

NHATS has available for users four types of documentation: Instruments (with original item numbers and associated variable names and labels), Codebooks, Crosswalks—the R1 crosswalk that maps items to file locations and variable names/labels and a second crosswalk that identifies changes between the R1 NHATS beta release and the R1 NHATS final release—and Data Collection Procedures.

The **Instruments** (NHATS Round 1 Instruments Annotated with Variable Names and Labels: Final Release) contain the specifications for the computer assisted personal interview application, including original item numbers, and variable names as they appear in the Tracker, SP, and OP files. Derived variables and Flag variables also are shown on instrument sections when appropriate. For the Performance Activity Booklet, the Round 1 Crosswalk is needed to map the original item numbers to the variable names and labels in the SP file.

The **Codebooks** are available to registered users and are included in the zip file with the Tracker, SP, and OP data files. The codebooks contain variable names, variable labels (that reference the original item number on the instrument), values, value labels, and frequencies. Variables are organized by order of administration in the interview. Flag variables appear in the file in the section where they originate, as do derived variables.

The **Crosswalk File (NHATS Round 1 Crosswalk between Instruments and Codebook: Final Release)** provides a link between the instruments and the codebooks. The first column shows questionnaire items, followed by columns that indicate location of variables (SP Public file, OP Public file, Tracker file, Sensitive or Restricted file, Not on file), followed by variable names and labels. The Crosswalk file is organized by order of administration, but the Excel version can be sorted by the user in different ways. Each combination of instrument item number and codebook variable name forms a unique entry. Thus, if the instrument item generates more than one variable the item will appear more than once and if a variable is created from multiple instrument items, the variable appears more than once.

The **NHATS Crosswalk of Changes from Round 1 Beta Release to Round 1 Final Release** documents the following: new variables added to the final release file, changes to variable names or labels, changes to value labels, and changes to variable coding. The first column in the crosswalk identifies the item where a change occurred; other columns indicate types of changes between the beta and final file. Variable name changes were made to improve consistency and ease of use. For example, all variables related to inside mobility have the same stem “mo1insd....”; all variables related to getting out of bed are “mo1bed....” Variables that reflect difficulty in doing an activity have a stem that reflects the activity followed by “dif”: mo1outdif, mo1insddif, mo1beddif; ha1laundif, ha1shopdif, etc.

The **NHATS Round 1 Data Collection Procedures** document contains selected information on data collection procedures for Round 1 that is relevant for analysts.

III.B. Other Person File

The Other Person File was constructed from a roster that was generated from questions in different sections of the SP interview. Each person on the OP file has a unique ID—opid—that is 3 digits and can be linked to the relevant SP (using the spid, which is also on the OP file). All variables in the OP file begin with the letters “OP.”

Variables on the OP file provide information about the “other person” and his/her role relative to the SP. For each person in the OP file, one or more flags are set indicating roles relative to the sample person. These include: proxy respondents (op1proxy), spouse/partner (op1relatnshp or op1spouprtnr), household member (op1prsninhh), child in household (op1childinhh), social network member (op1soclntrk), child not in household (op1chnotinhh), helper with activity (multiple variables for: mobility outside, inside, getting out of bed; household activities: laundry, meals, shopping, banking, money matters; self-care activities: eating, bathing, toileting, dressing; medical care activities: handling medications, sitting in on doctor visits, handling insurance matters; transportation), a person the SP cares for (op1spcaredfr), a person named as a contact to locate SP in the future (op1contctflg).

Each person in the OP file is assigned an ID so they can be identified and tracked in future rounds. For persons in residential care other than nursing homes, individuals who are on the staff of the residential care facility are entered as “service/someone from the place SP lives.” A

record is generated for the OP file with a relationship indicating “service/someone from the place SP lives” if this type of person was named as helping the SP. Individual staff members are not entered separately in the OP file. (In rare cases where an individual staff person serves as a proxy or is named as a social network member a record for that individual will be generated, as for other individual helpers.) Flags are set to 1 for each activity for which the category of “service/someone from the place SP lives” provided help. The helper flag (op1ishelper) is not set to 1 for this category of helpers, however, only helpers who are individually identified are coded 1.

The type of information collected varies, depending on the reason the person was identified. The table below shows the different types of information collected for different OP file entries. The full set of relationship codes available for different types of persons is listed in *Appendix I. Relationship Codes by Other Person Type*.

Variables	INFORMATION COLLECTED FOR PERSONS LISTED AS:							
	PROXY	SPOUSE/ PARTNER	HOUSEHOLD MEMBER	SOCIAL NETWORK MEMBER	CHILD NOT IN HOUSEHOLD	HELPER	PERSON SP CARES FOR	CONTACT
ID	X	X	X	X	X	X	X	
Age		X ¹	X ²		X ²			
Month, Year of Birth		X	X ²		X ²			
Categorical Age		X	X	X	X			
Gender	X ¹	X ¹	X	X	X			
Relationship ³	X ¹	X ¹	X	X	X	X	X	
Education		X	X ⁴		X			
Marital status			X ⁴		X			
Number of children			X ⁴		X			
Any and number of children < 18			X ⁴		X			
Helps with activity (separate indicators for mobility, self-care, household, medical care and transportation)						X		
Help regular schedule						X ⁵		
Number of days helped per week or month and hours per day						X ⁵		
Whether paid and who paid (SP, government, insurance, program, other)						X ⁵		
Payment unit and amount paid						X ⁵		
Gave SP financial assistance			X ⁴		X			
Received financial assistance from SP			X ⁴		X			

¹ Also available in SP file.

² In Round 1, if a child or a household member other than a spouse/partner served as a proxy respondent for the SP, date of birth was unintentionally skipped. In Round 2 and subsequent rounds, date of birth will be collected for all proxy respondents.

³ See Appendix Table 1 for details on relationship status.

⁴ Only for children in household.

⁵ Collected for helpers if op1ishelper = 1; not collected for helpers that are service/someone from the place SP lives.

Linking SP and OP information to identify records for a proxy or spouse. If a proxy respondent is interviewed, an indicator on the OP file (op1proxy) designates that the observation is a proxy respondent. In addition, a variable on the SP file (is1dproxyid) gives the 3 digit “opid” of the person in the OP file who served as a proxy respondent.

If a spouse/partner is identified by the SP, op1spouptrnr and op1relatnshp on the OP file can be used to identify a spouse. In addition, a variable on the SP file (hh1dspouseid) gives the 3 digit “opid” of the person in the OP file who is the spouse/partner of the SP.

Derived variables on the OP file. All records on the OP file should have at least 1 flag indicating their role/relationship to SP. Additional derived variables have been created to identify the relatively small number of cases that do not conform to this convention.

- *OP records identifying possible social network members:* Persons who were entered on the roster at the SN section but were not flagged as social network members are identified by **op1dsocwrkfl**.
- *OP records with no flags set:* **op1dfmlmiss** identifies records on the OP file that have no flags set (including persons identified in op1dsocwrkfl). **op1missadd** indicates the item number where the person identified in op1dfmlmiss was added. The largest number of records that have no flag were added at the Driving and Transportation section (DT) and the Closing section of the interview where future contact information is obtained (Section not available). Interviewers were allowed to select only 2 persons who drove the SP but may have entered more persons who could not be selected (and as a result have no flag for helping with driving) but generated an OP record. Some persons with no flags were entered in the Closing section as a contact who would know the location of the SP in the future but had no other role.
- *OP records that are likely duplicates:* Records that are likely duplicates are identified by **op1dprobdup**. Values of the variable identify duplicates e.g. if case 100 and 103 are duplicates case 100 will have a value of 103, and case 103 will have a value of 100, all other cases are assigned -1.

III.C. Definition of Complete Cases

Completed Interviews

Cases were considered complete if the:

- SP was community-resident and completed the SP interview;
- SP lived in a residential care setting other than a nursing home and completed the SP interview; the FQ interview may or may not have been completed;
- SP lived in a residential care setting other than a nursing home and the FQ was completed, but the SP interview was not (see *Section IV. NHATS Weights and Their Use* for treatment of these cases in the analytic weight; 1.68 persons in Round 1 with an FQ interview only);

- SP lived in a nursing home and the FQ interview was completed

Break offs

In a small number of cases an SP interview was started but not completed. Cases were considered as complete SP interviews if the break-off occurred after the PA section, i.e. all self-report items on functioning had been administered. Based on this criterion, 92 of the 94 break-off cases were retained as complete cases. Variables that identify a break-off case and the interview section where the break-off occurred are in the SP file (**r1breakoffst** and **r1breakoffqt**). Missing value codes from the point of break-off follow patterns for DK responses (-8 and -1 combinations).

III.D. Variable Naming and Missing Data Conventions

Variable names:

- Variable Names do not exceed 12 characters and are lower case.
- In the SP file, the first 2 characters of the variable name are the interview section letters, e.g. re (Residence), hc (Health Conditions).
- The third character is a number indicating the round of data collection (starting with 1 for Round 1).
- The remaining 9 characters reflect meaning of the variable.
- Variables in the SP file that were created from flags have “fl” as the first 2 characters (see *Section III.E. Flag Variable Conventions in the SP and OP Files*).
- Derived variable names have a “d” following the data collection round number.
- All variables in the OP file begin with OP.

Variable labels:

- Variable labels do not exceed 32 characters.
- Labels begin with the round number (R1), followed by the instrument section and item number (e.g. IS2A), followed by a description of the item.
- Labels for derived variables have a “d” following the number indicating data collection round.

Item- level missing data codes

The following codes were used at the item level for missing data of different types:

- 7 = Refusal
- 8 = Don't Know
- 1 = Inapplicable
- 9 = Not Ascertained

Global missing data codes using residential status

Residential status determined whether SP and FQ interviews were to be administered. Below is a chart summarizing the missing value assignments assigned to all items in the SP or FQ interview when one or the other component was missing.

Residential status (based on r1dresid)	Interview assigned	SP interview missing	FQ interview missing
1 (community SP interview complete)	SP only	--	-1 (Inapplicable)
2 (residential care SP interview complete)	SP and FQ	--	-9 (Not Ascertained) ¹
3 (residential care FQ interview only)	SP and FQ	-9 (Not Ascertained)	--
4 (nursing home resident)	FQ only	-1 (Inapplicable)	--

¹For subset of cases with no FQ interview

Missing data for performance activities (AB Section)

The physical activities section of the interview (AB) was administered using the Activities Performance Booklet and is a paper-and-pencil instrument. Two missing data codes are used at the item level in the AB Section:

- 1 for nursing home residents
- 9 for all other missing

An item may be coded -9 for several reasons including: a test was not administered because the SP was not eligible (see PE section); a person was in residential care and only the FQ interview was completed; an interviewer failed to record information in the proper field.

Derived variables have been created that reflect whether specific performance activities (balance stands, walking course, chair stands, grip strength and peak air flow) and waist circumference) were administered. Summary scores for each performance activity, and two versions of the SPPB (NHATS Expanded SPPB and Original) also have been constructed for analysts. See *III.H. Derived Variables* and Kasper, Freedman, Niefeld (2012) for more information.

Missing data for interviewer-observed conditions of the home and area (IR Section)

Interviewers completed questions in the IR Section about the condition of the SP's home and residential area. In cases where these questions were not answered by the interviewer a "-9" has been assigned. A code of -1 (inapplicable) was used for nursing home residents and legitimate skips (e.g. interview was not conducted in SP's home or the interviewer did not enter the SP's home, so questions on conditions inside the home were not answered).

III.E. Flag Variable Conventions in the SP and OP files

Some questions in the NHATS interview resulted in the setting of flag variables that prompted both routing and screen displays (e.g. question wording). *Appendix II. Flag Variable Specifications* provides a summary of flag variables in the SP and OP files, including where the flag was set, where the flag was used to route a respondent through questions, and where it was used to determine question wording.

In the SP file, the flag variable names all begin with the "fl" prefix and most, but not all, flag variables in the SP file are dichotomous. That is, response codes are either "1", indicating the

flag is turned on or a “-1” indicating it is not (in a small number of cases flags take on values of 2 or 3). Flag variables appear in the file in the section where they are created.

In the OP file the flag variables, like all variables in this file, begin with OP. For flags generated in a specific section, the section is indicated in the variable label. Most flag variables in the OP file are dichotomous (“1” yes or a “-1” missing). The flag variables in the OP file are described in *Section III.B. The Other Person File*.

III.F. “Other specify” Fields in the Instrument

Verbatim text from “other specify” fields are not released in the public use files. These data were used in two ways, however.

- “Other specify” fields were reviewed and upcoded into pre-coded response categories when appropriate. Upcoding was not done, however, in instances where it would change a routing sequence. For example, no upcoding was done for RE1 since physical structure of an SP’s home was used to route SPs through subsequent questions. Persons who were coded 91 (other) in RE1 and asked to specify the type of structure in RE1a followed the same routing sequence as persons coded as living in a multi-unit building.
- In some cases, “other specify” fields were used to add response codes to variables when a response occurred with enough frequency (and these added response codes are incorporated in later round instruments). In these cases, the variables developed from the “other specify” fields are shown on the instrument. For example, MC15 asks about transportation to SP’s regular doctor. Variables for walking, and home visit, were created from upcoding MC15a, other specify for how got to doctor.
- Two derived variables were created from coding FQ6a (fq1dosfacd) and FQ10a (fq1dosfaca). These variables, coded from other specify fields in the FQ, were used along with FQ6 (fq1facdescri) and FQ10 (fq1raaretype) to create a variable (fq1dllocsp) that was used in nonresponse adjustment of the analytic (and replicate) weight(s) on the SP file (see Montaquila, Freedman, Spillman and Kasper, 2012 for details). All variables are included on the SP file.

III.G. Data for Proxy Respondents

How Proxy Respondents were selected

A proxy respondent was used when an SP was unable to serve as a self respondent. Interviewers were instructed that the best proxy was someone who lives with the SP and was familiar with their daily routine. In residential care, a facility staff person may serve as a proxy respondent.

Data Collected from Proxy Respondents

In the SP interview, proxy respondents were asked all sections except Social Network, Well Being, Cognition, and the Performance Activities. The Cognition for Proxies section (CP) was administered to proxy respondents only. Even when a proxy interview was conducted, if the proxy agreed, the SP was asked the Cognition section and invited to participate in the performance activities for which he/she was eligible.

Data for Proxy Respondents

The IS section indicates whether a proxy respondent was used and the reasons. A question at the end of this section asks how familiar the proxy respondent is with the SP’s daily routine. Variables from these items are on the SP file.

Variables indicating the proxy’s gender, relationship to the SP, and whether he/she lives with the SP are on both the SP and the OP file.

The table below shows for proxy respondents: the information obtained, the variable name on the SP and OP file when applicable, and the item that is the source for the variable.

Type of information	SP file variable	OP file variable	Item
Proxy respondent used	is1resptype	op1proxy	IS2
Reason for proxy respondent	is1reasnprx1 is1reasnprx2 is1reasnprx3 is1reasnprx4 is1reasnprx5 is1reasnprx6 is1reasnprx7	NA NA NA NA NA NA NA	IS2A
Proxy relationship to SP	is1prxyrelat	op1relatnshp	IS9
Proxy gender	is1prxygendr	op1gender	IS10
Proxy familiarity with SP’s daily routine	is1famrrutin	NA	IS11
Proxy lives with SP	hh1proxlivsp	op1prsninhh	HH13a
ID of person on OP file who was proxy respondent	is1dproxyid	NA	Derived

The derived variable “is1dproxyid” on the SP file gives the 3 digit ID of the OP record that belongs to the person who served as a proxy respondent (and is missing otherwise). For example, for an SP with 2 adult children, there will be an OP record for each child. Child 1 might have an opid = 001 and Child 2 might have opid = 002. If Child 2 was the proxy respondent, then is1proxyid=002 indicating that the information about the proxy respondent can be found in the OP record with opid = 002 (Child 2).

III.H. Derived Variables

Overview

A number of derived variables have been created to facilitate analyses of NHATS data. Principles for creating derived variables included:

- complex skip patterns (for example in the HA section)
- calculation of scores (for example the word recall test in the CG section and the physical performance scores)

The table below provides a brief description of derived variables in the SP file. For a description of OP file derived variables see *Section III.B. The Other Person File*. Details for all derived variables are in *Appendix III. Derived Variable Specifications*.

Summary of Derived Variables in the SP File

Section	Description of Derived Variables
Residence (RE)	residential care status for data collection
Household (HH)	living arrangement (alone, with spouse only, with others); counts of people and children in the household
Children and Siblings (CS)	an edited version of question on children outside the household based on reconciling this item with OP records; counts of children, step children, daughters and sons
Social Network (SN)	count of the number in the social network
Cognition (CG)	random word list assignment; immediate and delayed recall scores; score for the clock drawing test (see <i>Section III.I. Scoring Methodology for Clock Drawing Test</i>)
Mobility (MO)	for each of the mobility activities (going outside, getting around inside, and getting out of bed): difficulty doing the activity by self, whether devices used, whether help received
Duration of Mobility Accommodations (DM)	for mobility help: whether any help received last year; month started or ended; and years if more than 1; for mobility device use: whether any use in last year; month started or ended; and years if more than 1
Household Activities (HA)	for each activity (laundry, shopping, preparing hot meals, and handling bills and banking): level of difficulty by oneself and reason help is received (health/functioning reason, other reason, both)
Self Care (SC)	for each activity (eating, washing up, dressing, toileting): whether devices used, whether help received, difficulty doing the activity by self
Duration of Self Care Accommodations (SC)	for help with self care: whether any help received last year; month started or ended; and years if more than 1
Medical Care Activities (MC)	for managing medications: level of difficulty by oneself and reason help is received (health/functioning reason, other reason, both)
Participation (PA)	favorite activity

Early Life (EL)	if immigrated, age came to US; whether lives in same city and state as when age 15
Race, Ethnicity, Language (RL)	race and Hispanic ethnicity
Labor Force (LF)	longest occupation
Helpers (HL)	hours of help per month
Physical Activities Booklet (AB)	indicators of administration status of each of the activities; summary scores for each activity; NHATS Expanded and Original SPPB; average and best scores for walking speed, grip strength and peak air flow (see Kasper, Freedman, and Niefeld, 2012)
Facility Questionnaire (FQ)	Variables from other specify fields for type of place and SP's level of care; variable used in nonresponse adjustment for analytic weight

For the cases where only the FQ was completed (nursing home residents; persons in residential care with FQ only), a -1 inapplicable code is assigned to these derived variables. Analysts who wish to distinguish between these two types of non-respondents can do so using the derived variable “r1dresid R1 D RESIDENTIAL STATUS” (on the SP and tracker file).

10 item word recall (immediate and delayed)

Scores have been created for both the 10 item immediate and delayed word recall batteries: cg1dwrdimmrc R1 D SCORE IMMEDIATE WORD RECALL and cg1dwrddlyrcR1 D SCORE DELAYED WORD RECALL.

Variables from items CG8 (cg1wrdsrca1 through cg1wrdsrca10) and CG15 (cg1wrdsdca1 through cg1wrdsdca10) reflect the number of people who recalled at least 1 word, at least 2 words, etc. up to 10 words by the word recalled (word 1, 2, 3, etc.). For example, cg1wrdsrca9 R1 CG8 9 TELL WORDS U CAN RECALL (variable that reflects results for persons who remembered at least 9 words on immediate word recall) can be interpreted as: among those who recalled 9 words, 2 recalled the 1st word, 4 recalled the 4th word etc.

Word[1]	2
Word[4]	4
Word[5]	7
Word[6]	5
Word[7]	6
Word[8]	2
Word[9]	7
Word[10]	9

A set of derived variables—cg1dwr1rcl through cg1dwr10rcl (immediate word recall) and cg1dwr1dly through cg1dwr10dly (delayed word recall)—reflects the number of people who recalled the 1st word in the list, the number who recalled the 2nd word in the list, etc.

Physical Activities Derived Variables

Measures of administration status (eligible and recorded result, eligible and no recorded result, not administered because did not complete prior test, not eligible) have been constructed for balance stands, walking, single and repeated chair stands, grip strength, peak air flow. Summary scores for each performance activity, and two versions of the SPPB (NHATS Expanded SPPB and Original) also have been constructed for analysts. See *III.H. Derived Variables* and Kasper, Freedman, and Niefeld (2012) for more information.

III.I. Scoring Methodology for Clock Drawing Test

Scoring guidelines for the clock drawing test were reproduced for use in NHATS by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549, from the Calibrated Neuropsychological Normative System, by David J. Schretlen, PhD, S. Marc Test, PhD, and Godfrey D. Pearlson, MD, Copyright 2010 by Psychological Assessment Resources, Inc. Scoring guidelines used by coders consisted of both verbal instructions and illustrative images of clocks.

Clocks were scored on a scale from 0, not recognizable as a clock, to 5, an accurate depiction of a clock. Criteria for scores included:

- 5 (accurate depiction)—numbers in correct quadrants; hands pointing to the numbers 11 and 2; minute hand longer than the hour hand.
- 4 (reasonably accurate depiction)—numbers in roughly correct quadrants; hands reasonably close to the numbers 11 and 2; hands could be of equal length or the minute hand could be shorter than the hour hand; numbers may be outside the perimeter of the clock face.
- 3 (mildly distorted depiction)—some numbers may be missing or disoriented; there may be a few extra numbers. Hands may be incorrectly drawn or pointing to wrong number combinations; a hand may be missing.
- 2 (moderately distorted depiction)—several numbers are missing, repeated, or drawn in reverse order; there were more than two hands or no hands.
- 1 (severely distorted depiction)—viewer might be able to tell that the drawing was a clock but could not tell the time shown.
- 0 (not recognizable as a clock)—viewer would not be able to tell drawing was supposed to be a clock.

Clocks were scanned into an online database for coding. If a participant drew more than one clock, coders were instructed to score the best of the clocks drawn. If participants clearly marked out something they had drawn, like an extra hand, coders were instructed to score as if two hands had been drawn not three. Clocks that were difficult to read such as clocks missing a part of the outside or a clock that was too small to see were scored by what could be read by the coder. Coders scored the clarity of the clock image (variable name=cg1dclkingcl) in addition to scoring the clock (variable name=cg1dclckdraw).

Clock Coder Training and Selection of Coders

Training

Training consisted of a presentation that covered: how the clock drawing test was administered in NHATS, review of the 3-page scoring guide which provided both verbal descriptions of coding criteria and clock images corresponding to each score, and a review of 20-25 clocks and discussion of coding. A neuropsychologist was consulted in the development of the training.

Assessing reliability of lay coders against clinically trained coders

Two neuropsychology fellows and 2 lay coders were trained for purposes of evaluating the use of lay coders to code the NHATS sample participant clocks. Following training, each coder was given 220 clock drawings from the NHATS Validation Study conducted in the Spring of 2010. The sample consisted of persons in the community and residential care other than nursing homes; it also included persons receiving help with activities of daily living (see Freedman et al. 2011 for a description of the sample). Clocks from both an initial interview and a re-interview for 111 people were used in training (220 in all; one person had only 1 clock).

The neuropsychology coders were considered the gold standard given their clinical background in cognitive assessment including administering and evaluating clock drawings. The weighted Kappa to assess inter-rater reliability between the two neuropsychology coders was .81. A Kappa for scores of 4 or 5 versus scores of 0 to 3 for the two neuropsychology coders was .93. Weighted kappas between each of the two lay coders against each neuropsychology coder (4 comparisons) ranged from .78 to .80; the kappa for scores of 4 or 5 versus scores of 0 to 3 ranged from .85 to .93. The high level of agreement between the lay and neuropsychology coders indicated that with training lay coders could accurately implement the scoring system used for NHATS.

Criteria for selecting coders for NHATS Round 1

In all, 6 persons were trained and completed coding of the 220 NHATS validation study clocks. Inter-rater reliability for each coder was assessed against the two neuropsychology coders and only those with a kappa of .77 or higher was used as a coder, 3 persons in all.

III.J. Income Imputations

On the SP file are five imputed values of total income and income range (items IA50, IA51a, IA51b). The values reflect couple income for those currently married or living with a partner and respondent income otherwise.

The imputations were created using a hot-deck imputation process that preserved the joint distribution of the full set of income components (including source indicators (yes/no) and source amounts for respondent and spouse/partner). A cyclical n-partition hot deck was used (see Judkins 1997). The program samples donors (within hot deck cells) without replacement (with a limit on each donor being used no more than 3 times).

The total income range variable was imputed for 31% of the sample and was used to bound the imputation of the total income amount (imputed for 44%; 13% within reported bracketed value and 31% within imputed bracketed value), so that the imputed value would be consistent with the range. Data users who wish to distinguish actual (reported) values from imputed values, may use the appropriate imputation flag (indicated with `_f` at the end of the imputation variable), which is set to 1 for imputed values and 0 otherwise.

Although income sources and component amounts were included in the imputation for total income, we did not attempt to reconcile the total amounts with the component amounts reported from separate sources.

For further details on the Round 1 income imputation see Montaquila, Freedman, and Kasper (2012).

IV. NHATS Weights and Their Use

For Round 1 of NHATS, two types of sampling weights have been produced: a tracker weight (on the Tracker file with the variable name `w1trfinwgt0`) and an analytic weight (on the Sample Person file with the variable name `w1anfinwgt0`). NHATS has also included replicate versions of these weights (`w1trfinwgt1-w1trfinwgt56` on the tracker file and `w1anfinwgt1- w1anfinwgt56` on the SP file). These survey weights account for differential probabilities of selection and adjust for potential bias related to unit nonresponse. Base weights that reflect only probabilities of selection also are provided.

The methodology to develop these weights is described in Montaquila, Freedman, Spillman, and Kasper (2012). The remainder of this section provides guidance on the use of each of these weights.

Difference between Tracker and Analytic Weights. When using the tracker weight, respondents are weighted up to represent all Medicare beneficiaries ages 65 and older who were alive on September 30, 2010 and residing in the contiguous United States. In contrast, the analytic weight reproduces only those alive and eligible for NHATS during the fieldwork period, which began May 2011.

The only other difference between the two sets of weights is the treatment of respondents who live in residential care settings other than nursing homes. In cases where a facility interview was completed but a Sample Person interview was not completed, a positive weight was included in the tracker file and a zero weight in the analytic file. The analytic weights of individuals with both an SP and FQ interview have been adjusted to represent these cases (persons assigned both an SP and FQ interview but with only an FQ). For all other respondents the analytic and tracker weights are equal.

Most often analyses will use the analytic weight. The tracker weight is appropriate for making national estimates using the Facility Questionnaire information (e.g. for services available to

older adults living in residential care settings) and for investigating the role of mortality on Round 1 disability estimates and successive cross-sections.

Computation of sampling errors. The NHATS public use files also include variables to allow proper computation of standard errors. Analysts may choose from Taylor series linearization and replication methods.

Analysts using Taylor series linearization should use the stratum and cluster variables (`w1varstrat` and `w1varunit`) provided on both the Tracker and SP files. We also recommend that analysts conducting subgroup analysis and adjusting for complex sample design use the `subpop` statement in Stata or the `DOMAIN` statement in SAS to subset.

For analysts using replication methods, we have included replicate tracker and analytic weights (`w1trfinwgt1-56` on the Tracker file and `w1anfinwgt1-56` on the SP file, respectively). The replicates were constructed using the modified balanced repeated replication (BRR) method suggested by Fay (Judkins 1990).

Nonresponse Adjustment variables. A variable created for nonresponse adjustment to weights of persons in residential care settings (persons with an SP and FQ interview have weights adjusted for cases where only an FQ was obtained; $n=168$) is available as a derived variable (`fq1dlocsp: R1 D FQ6 6A 10 10A FOR SAMP WGT`). For details see Montaquila, Freedman, Spillman, and Kasper, 2012.

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Appendix I. Relationship Codes by Other Person Type

RELATIONSHIP CODES		CODES AVAILABLE FOR PERSONS LISTED AS:					
		PROXY	HOUSEHOLD MEMBER	SOCIAL NETWORK MEMBER	CHILD NOT IN HOUSEHOLD	HELPER	PERSON SP CARES FOR
2	SPOUSE/PARTNER	X	X	X		X	X
3	DAUGHTER	X	X	X	X	X	X
4	SON	X	X	X	X	X	X
5	DAUGHTER-IN-LAW	X	X	X		X	X
6	SON-IN-LAW	X	X	X		X	X
7	STEPDAUGHTER	X	X	X	X	X	X
8	STEPSON	X	X	X	X	X	X
9	SISTER	X	X	X		X	X
10	BROTHER	X	X	X		X	X
11	SISTER-IN-LAW	X	X	X		X	X
12	BROTHER-IN-LAW	X	X	X		X	X
13	MOTHER	X	X	X		X	X
14	STEPMOTHER	X	X	X		X	X
15	MOTHER-IN-LAW	X	X	X		X	X
16	FATHER	X	X	X		X	X
17	STEPFATHER	X	X	X		X	X
18	FATHER-IN-LAW	X	X	X		X	X
19	GRANDAUGHTER	X	X	X		X	X
20	GRANDSON	X	X	X		X	X
21	NIECE	X	X	X		X	X
22	NEPHEW	X	X	X		X	X
23	AUNT	X	X	X		X	X
24	UNCLE	X	X	X		X	X
25	COUSIN	X	X	X		X	X
26	STEPDAUGHTER'S SON/DAUGHTER	X	X	X		X	X
27	STEPSON'S SON/DAUGHTER	X	X	X		X	X
28	DAUGHTER-IN-LAW'S SON/DAUGHTER	X	X	X		X	X
29	SON-IN-LAWS SON/DAUGHER	X	X	X		X	X
30	BOARDER/RENTER	X	X	X		X	X
31	PAID AIDE/HOUSEKEEPER/EMPLOYEE	X	X	X		X	
32	ROOMMATE	X	X	X		X	X
33	EX-WIFE/EX-HUSBAND	X	X	X		X	X
34	BOYFRIEND/GIRLFRIEND	X	X	X		X	X
45	NEIGHBOR	X	X	X		X	X
36	FRIEND	X	X	X		X	X
37	SERVICE/SOMEONE FROM THE PLACE SP LIVES*	X		X			
38	CO-WORKER			X			
39	MINISTER, PRIEST, OR OTHER CLERGY			X			
40	PSYCHIATRIST, PSYCHOLOGIST, COUNSELOR, OR THERAPIST			X			
91	OTHER RELATIVE	X	X	X		X	X
92	OTHER NONRELATIVE	X	X	X		X	X

Appendix II. Flag Variable Specifications

TABLE OF FLAG VARIABLES IN THE SP FILE			
Variable Name VARIABLE LABEL	WHERE FLAG IS SET	QUESTIONS WHERE FLAG PROMPTS ROUTING	QUESTIONS WHERE FLAG PROMPTS WORDING DISPLAY
RESIDENCE (RE)			
fl1structure R1 F RE STRUCTURE OF SP DWELLING	RE1	BOX HT5, BOX HO2, BOX HO4, BOX HO5, BOX MO11, BOX MO12	HO1PRE, TE8,MO1PRE, MO11PRE, MO13, MO14, MO15, MO16, MO17, MO18, MO19A, MO20, MO21, MO22, MO23, DM1, DM2, HA2
fl1bldgfl R1 F RE BLDG MORE THAN ONE FLOOR	RE2	BOX HO4 (Note: Box uses RE2 instead of fl1numfloor)	
HOUSING TYPE (HT)			
fl1facility R1 F ROUTING FLAG FROM HT3 5 6 7	BOX HT3b, BOX HT8, End of FQ	BOX HT5, BOX HT8, BOX HT11, BOX SE1PRE, BOX HH13, BOX HO10, BOX HO12, BOX LF1, BOX LF13, BOX HP1, BOX EW15	HO11, MO6, MO6a, MO11, MO18, MO19A, MO25, MO25a, DT4, HA2, HA3A, HA23, HA25A, HA30B, HA32A, HA42A, HA51A, HA52A, SC3, SC3A, SC11, SC11A, SC17, SC17A, SC23, SC23A, MC5A, MC15, MC16, MC17A, MC22A
fl1hotype R1 F HT TYPE OF HOME	BOX HT11		HO10PRE, HO10
fl1retirecom R1 F HT SP LIVES IN RETIREMT COM	HT4	BOX HT5	MO6a, MO19a, MO25a, DT4, HA3A, HA23, HA25A, HA32A, HA42A, HA52A, SC3A, SC11A, SC17A, SC23A, MC5A, MC15, MC17A, MC22A
SOCIAL NETWORK (SN)			
fl1noonetalk R1 F SN SP HAS NO ONE TO TALK TO	SN2		
HOME ENVIRONMENT (HO)			
fl1onefloor R1 F HO SP LIVES ON ONE FLOOR	HO5		
fl1athgrbbr R1 F HO SPS BATH HAS GRAB BARS	HO11	BOX SC9	

fl1bathseat R1 F HO SPS BATH HAS SEAT	HO11	BOX SC10	
fl1raisedtl R1 F HO SP HAS RAISED TOILET	HO11		SC16
fl1tltrbbr R1 F HO SP TOILET HAS GRAB BARS	HO11		SC16
MOBILITY DEVICES (MD)			
fl1cane R1 F MD SP USES CANE	MD2	BOX MO2, BOX MO13, BOX MO24, BOX DM4	PC1PRE, PC1, PC2, PC3, PC4, PC5, PC6, MO24, MO27, DM5, PE12
fl1walker R1 F MD SP USES WALKER	MD3	BOX MO3, BOX MO14, BOX MO24, BOX DM4	PC1PRE, PC1, PC2, PC5, PC6, MO24, MO27, DM5, PE12
fl1wheelchr R1 F MD SP USES WHEELCHAIR	MD4	BOX MO4, BOX DM4	DM5, DT4
fl1whlchrhom R1 F MD SP HAS WHEELCHR AT HOME	MD4a	BOX MO15	
fl1scooter R1 F MD SP USES SCOOTER	MD5	BOX MO5, BOX DM4	DM5, DT4
fl1scooterhm R1 F MD SP HAS SCOOTER AT HOME	MD5a	BOX MO16	
MOBILITY (MO)			
fl1didntleav R1 F MO SP DID NOT LEAVE HOME	MO1	BOX DT1, BOX DT3PRE	
fl1ntlvrmslp R1 F MO SP DID NOT LEAVE BEDROOM	MO12		
DRIVING AND TRANSPORTATION (DT)			
fl1drives R1 F DT SP DRIVES CAR	DT1	BOX DT3PRE, BOX PA3, BOX PA7, BOX PA11, BOX PA15	DT4
fl1drvlstyr R1 F DT SP DROVE CAR IN PAST YR	BOX DT3PRE		HA23, MC15
SELF CARE ACTIVITIES (SC)			
fl1showering R1 F SC SP USES SHOWER	SC7, SC8	BOX SC9, BOX SC10	SC9, SC10, SC11, SC11A, SC12, SC13, SC14, SC15
fl1takingbth R1 F SC SP TAKES BATHS	SC7, SC8	BOX SC9, BOX SC10	SC9, SC10, SC11, SC11A, SC12, SC13, SC14, SC15

fl1washingup R1 F SC SP WASHES OTHER WAY	SC7, SC8		SC11, SC11A, SC12, SC13, SC14, SC15
PERFORMANCE ACTIVITIES ELIGIBILITY (PE)			
fl1lefthand R1 F PE CAN SP DO LEFT HAND TEST	PE1		PE14
fl1righthand R1 F PE CAN SP DO RGT HAND TEST	PE1		PE14
fl1eiherhand R1 F PE CAN SP DO EITHR HAND TST	PE1		PE14
fl1lftgrptst R1 F PE CAN SP DO LFT GRIP TST	PE3, PE5, PE7		PE14
fl1rhtgrptst R1 F SC SP WASHES OTHER WAY	PE3, PE5, PE7		PE14
fl1charstnds R1 F PE CAN SP DO CHAIR STANDS	PE3, PE12	BOX PE12	PE14
fl1balstands R1 F PE CAN SP DO BALANCE STANDS	PE11		PE14
fl1wlkingrse R1 F PE CAN SP DO WALKING COURSE	BOX PE13, PE13		PE14

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TABLE OF FLAGS THAT GENERATE VARIABLES IN THE OP FILE			
Variable Name VARIABLE LABEL	WHERE FLAG IS SET	QUESTIONS WHERE FLAG PROMPTS ROUTING	QUESTIONS WHERE FLAG PROMPTS WORDING DISPLAY
HOUSEHOLD (HH)			
op1prsninh R1 HH14 IN HOUSEHOLD	HH11, HH13a, HH14		HH13b, HH14
op1childinh R1 HH15 CHILD IN HOUSEHOLD	BOX CS2	BOX CS2	CS9
op1chnotinh R1 CS2 CHILD NOT IN HOUSEHOLD	CS2PRE		CS9
SOCIAL NETWORK (SN)			
op1soclntwrk R1 SN2 PART OF SP SOCIAL NETWORK	SN2		
MOBILITY (MO)			
op1outhlp	MO6a	BOX HL1PRE	

R1 MO6A HELPS SP GO OUTSIDE			
op1insdhelp R1 MO19A HELPS SP INSIDE HOUSE	MO19a	BOX HL1PRE	
op1bedhelp R1 MO25A HELPS SP OUT OF BED	MO25a	BOX HL1PRE	
DRIVING AND TRANSPORTATION (DT)			
op1tkplhlp1 R1 DT5A TAKES SP PLACES MOST	DT5a	BOX HL1PRE	DT7a
op1tlplhlp2 R1 DT7A TAKES SP PLACES OTH	DT7a	BOX HL1PRE	
HOUSEHOLD ACTIVITIES (HA)			
op1launhlp R1 HA3A HELPS SP WITH LAUNDRY	HA3a	BOX HA4, Box HA7, BOX HL1PRE	
op1shophlp R1 HA25A HELPS SP WITH SHOPPING	HA25a	BOX HA26, BOX HA29, BOX HL1PRE	
op1mealhlp R1 HA32A HELPS SP WITH MEALS	HA32a	BOX HA33, BOX HA36, BOX HL1PRE	
op1bankhlp R1 HA42A HELPS SP WITH BANKING	HA42a	BOX HA43, BOX HA46, BOX HL1PRE	
op1moneyhlp R1 HA52A HELPS SP WITH MONEY	HA52a	BOX HL1PRE	
op1eathlp R1 SC3A HELPS SP WITH EATING	SC3a	BOX HL1PRE	
op1bathhlp R1 SC11A HELPS SP WITH BATHING	SC11a	BOX HL1PRE	
op1toilhlp R1 SC17A HELPS SP WITH TOILETING	SC17a	BOX HL1PRE	
op1dreshlp R1 SC23A HELPS SP WITH DRESSING	SC23a	BOX HL1PRE	
MEDICAL CARE (MC)			
op1medshlp R1 MC5A HELPS SP WITH MEDICINES	MC5a	BOX MC6, BOX MC9, BOX HL1PRE	
op1dochlp R1 MC17A SITS IN W SP AT DRS	MC17a	BOX HL1PRE	
op1dochlpmst R1 MC18 SITS MOST IF MORE THAN 1	BOX MC18, MC18		MC19
op1insurhlp	MC22a	BOX HL1PRE	

R1 MC22A HELPS WITH INSUR DECIS			
PARTICIPATION (PA)			
op1spcaredfr R1 PA22D SP CARED FOR PERSON	PA22d		
HELPER (HL)			
op1paidhelpr R1 HL5 HELPER IS PAID	HL5		
op1ishelper R1 BXHL1 HELPS SP	BOX HL1		
CLOSING (CL)			
op1contctflg R1 PERSON IS LISTED AS CONTACT	CL24		

Appendix III: Derived Variable Specifications

RE and HT Sections		
Variable Name VARIABLE LABEL File Location	CODING SPECIFICATIONS	VALUES and VALUE LABELS
r1dresid R1 D RESIDENTIAL CARE STATUS Tracker File SP File (IS Section)	1 if SP interview and no FQ interview required 2 if SP and FQ required; both completed or SP only completed 3 if SP and FQ required; FQ only completed 4 if FQ only required and completed	1 Community 2 Residential Care Resident not nursing home (SP interview complete) 3 Residential Care Resident not nursing home (FQ only) 4 Nursing Home Resident
r1dresidr R1 D RESIDENTIAL CARE STATUS RECODE Tracker File	1 if one of 7 cases with recoded final status -1 all other cases	1 Case status recoded from nursing home resident to residential care resident not nursing home -1 Inapplicable The SP interview for these cases indicated the individual was not a nursing home resident even though the FQ respondent subsequently reported the SP was in a nursing home part of the facility at the time of interview. Fq1dlocsp provides an edited version of FQ 6 6a 10 10a for these cases.
r1dcensdiv R1 D SP CENSUS DIVISION SP File (IS Section)	Categorical version of R1 SP residence at the Census Division level	1 Northeast Region: New England Division (ME, NH, VT, MA, RI, CT) 2 Northeast Region: Middle Atlantic Division (NY, NJ, PA) 3 Midwest Region: East North Central Division (OH, IN, IL, MI,WI) 4 Midwest Region: West North Central Division (MN, IA, MO, ND,SD, NE, KS) 5 South Region: South Atlantic Division (DE, MD, DC, VA, WV,NC, SC, GA, FL) 6 South Region: East South Central Division (KY, TN,

		AL, MS) 7 South Region: West South Central Division (AR, LA, OK, TX) 8 West Region: Mountain Division (MT, ID, WY, CO, NM, AZ, UT, NV) 9 West Region: Pacific Division (WA, OR, CA
r1d2intvrage R1 D SP CAT AGE AT INTVW SP File (IS Section)	Categorical version of R1 age	1 65-69 2 70-74 3 75-79 4 80-84 5 85-89 6 90+
HH Section		
hh1dlvngarr R1 D LIVING ARRANGEMENT SP File (HH Section)	1 if SP is only person with INHOUSEHOLD flag = 1 2 if SP and spouse/partner with INHOUSEHOLD flag = 1 and no other persons with INHOUSEHOLD flag = 1) 3 if spouse/partner with INHOUSEHOLD flag = 1 and 1 or more other persons with INHOUSEHOLD flag = 1 4 if spouse/partner with INHOUSEHOLD flag NE 1 and 1 or more other persons with INHOUSEHOLD flag = 1 -1 if r1dresid = 3 or 4	1 Alone 2 With Spouse/partner only [spouse/partner in household] 3 With spouse/partner and with others 4 With others only -1 Inapplicable
hh1dhshldnum R1 D TOTAL NUMBER IN HOUSEHOLD SP File (HH Section)	Count of persons on roster with INHOUSEHOLD flag = 1 -1 if r1dresid = 3 or 4	1-N Number of persons -1 Inapplicable
hh1dhshldchd R1 D TOTAL CHILDREN IN HOUSEHOLD SP File (HH Section)	Count of persons with CHILDINHH flag = 1 0 if no flags = 1 -1 if r1dresid = 3 or 4	0 1-N Number of persons -1 Inapplicable
hh1d2spouage R1 D SPOUSE CAT AGE AT INTVW SP File (HH Section)	Categorical version of age for spouse/partner	1 <50 2 50-54 3 55-59 4 60-64 5 65-69 6 70-74

		7 75-79 8 80-84 9 85-89 10 90+ -1 Inapplicable -7 RF -8 DK
op1dage R1 D OTH PERSN CAT AGE AT INTVW OP File (HH Section)	Categorical version of age for other persons where date of birth obtained (spouse/partner, household member, children of sample person)	1 <20 2 20-24 3 25-29 4 30-34 5 35-39 6 40-44 7 45-49 8 50-54 9 55-59 10 60-64 11 65-69 12 70-74 13 75-79 14 80-84 15 85-90 16 90+ -1 Inapplicable -7 RF -8 DK
CS Section		
cs1dnumchild R1 D NUMBER OF CHILDREN SP File (CS Section)	Count of persons with CHILDINHH flag = 1 and CHILDNOTINHH flag = 1 0 if no flags = 1 -1 if r1dresid = 3 or 4	0 1-N Number of persons -1 Inapplicable
cs1dnmstpchd R1 D NUMBER OF STEP CHILDREN SP File (CS Section)	Count of persons with [CHILDINHH flag = 1 and CHILDNOTINHH flag = 1] and relationship = 7 or 8 0 if no flags = 1 -1 if r1dresid = 3 or 4	0 1-N Number of persons -1 Inapplicable

cs1dnumdaugh R1 D NUMBER OF DAUGHTERS SP File (CS Section)	Count of persons with [CHILDINHH flag = 1 and CHILDNOTINHH flag = 1] and relationship = 3 or 7 (step & bio & adopted) 0 if no flags = 1 -1 if r1dresid = 3 or 4	0 1-N Number of persons -1 Inapplicable
cs1dnumson R1 D NUMBER OF SONS SP File (CS Section)	Count of persons with [CHILDINHH flag = 1 and CHILDNOTINHH flag = 1] and relationship = 4 or 8 (step & bio & adopted) 0 if no flags = 1 -1 if r1dresid = 3 or 4	0 1-N Number of persons -1 Inapplicable
cs1dreconcil R1 D DS1 OP RECORD RECONCILE SP File (CS Section)	1 = yes to CS1 and at least one OP record with op1chnotinh = 1 2 = no to CS1 and at least one OP record with op1chnotinh = 1 3 = no to CS1 and no OP records with op1chnotinh = 1 4 = yes to CS1 and no OP records or no OP records with op1chnotinh = 1 -7 if CS1 = RF -8 if CS1 = DK -9 if r1dresid = 3 -1 if r1dresid = 4	1 Yes 2 Yes corrected by NHATS 3 No 4 Yes but missing OP records for child outside household -1 Inapplicable -7 RF -8 DK -9 Missing
SN Section		
sn1dnumsn R1 D NUMBER IN SOCIAL NETWORK SP File (SN Section)	Count number of persons with SOCIALNETWORK flag = 1 0 if NOONETOTALKTO flag = 1 -1 if r1dresid = 3 or 4 or proxy respondent	0 1-N Number of persons -1 Inapplicable
op1dcatgryag R1 D OTH PERSN SN CAT AGE OP File (SN Section)	Categorical age for social network member	1 <30 2 30-39 3 40-49 4 50-59 5 60-69 6 70-79 7 80-89 8 90+ -1 Inapplicable -7 RF

		-8 DK
op1dsocwrkfl R1 D LIKELY SOCIAL NETWRK MEMBER	Person entered on roster at SN Section but not checked as SN member.	1 Yes -1 Inapplicable
CG Section		
cg1dwrldstnm R1 D WHICH WORD LIST WAS ASSIGNED SP File (CG Section)	1 = list 1 2= list 2 3 = list 3 -1 if r1dresid = 3 or 4	1-3 Number of 10-word list -1 Inapplicable
cg1dwrddimmrc R1 D SCORE IMMEDIATE WORD RECALL SP File (CG Section)	0 if CG8 = 91 (no words remembered) 1 to 10 for number of correct words -1 if r1dresid = 3 or 4 -2 if cg1speaktosp = 2 -3 if cg1speaktosp = 1 and ((CG 6a and 6b and 6c and 6d and 6e = no or -7 or -8) or (CG1c = 2 or -7 or -8)) -7 if CG7PRE = 2 (refuses activity) or CG8 = 92 (refused)	0 to 10 -1 Inapplicable -2 Proxy says cannot ask SP -3 Proxy says can ask SP cognitive items but SP unable to answer -7 SP refused activity
cg1dwrddlyrc R1 D SCORE DELAYED WORD RECALL SP File (CG Section)	0 if CG15 = 91 (no words remembered) 1 to 10 for number of correct words -1 if r1dresid = 3 or 4 -2 if cg1speaktosp = 2 -3 if cg1speaktosp = 1 and ((CG 6a and 6b and 6c and 6d and 6e = no or -7 or -8) or (CG1c=2 or -7 or -8)) -7 if CG7PRE = 2 (refused immediate word recall activity) or CG15 = 92 (refused) -9 missing	0 to 10 -1 Inapplicable -2 Proxy says cannot ask SP -3 Proxy says can ask SP but SP unable to answer -7 SP refused activity -9 Missing
cg1dwrdd1rc1 – cg1dwrdd10rc1 R1 D WORD1 IMMEDIATE RECALL – R1 D WOR10 IMMEDIATE RECALL SP File (CG Section)	These derived variables indicate the number of SPs who correctly identified word 1, word 2 etc. from the list they were given.	
cg1dwrddinone R1 D IMMEDIATE RECALL NONE	1 if no words remembered 2 otherwise	1 No words remembered 2 No

cg1dwrdirref R1 D IMMEDIATE RECALL REFUSED	1 if refused immediate word recall task 2 otherwise	1 Refused word recall task 2 No
cg1dwr1dly – cg1dwr10dly R1 D WORD1 DELAYED RECALL – R1 D WOR10 DELAYED RECALL SP File (CG Section)	These derived variables indicate the number of SPs who correctly identified word 1, word 2 etc. from the list they were given.	
cg1dwrddnone R1 D DELAYED RECALL NONE	1 if no words remembered 2 otherwise	1 No words remembered 2 No
cg1dwrddrref R1 D DELAYED RECALL REFUSED	1 if refused delayed word recall task 2 otherwise	1 Refused delayed word recall task 2 No
cg1dcldraw R1 D SCORE OF CLOCK DRAWING TEST SP File (CG Section)	0 = worst score; 5 = best score -1 if r1dresid = 3 or 4 -2 if cg1speaktoSP = 2 -3 if cg1speaktoSP = 1 and ((CG 6a and 6b and 6c and 6d and 6e = no or -7 or -8) or (CG1c = 2 or -7 or -8)) -4 if cg1atdrwclck = 2 -7 if cg1atdrwclck = 97 -9 missing	0 to 5 Score -1 Inapplicable -2 Proxy says cannot ask SP -3 Proxy says can ask SP but SP unable to answer -4 SP did not attempt to draw clock -7 SP refused to draw clock -9 Missing
cg1dclkingcl R1 D IMAGE CLARITY CLOCK DRAWING SP File (CG Section)	Image clarity of clock drawings used for scoring	1 Blank 2 Very unclear 3 Somewhat unclear 4 Somewhat clear 5 Very clear -1 Inapplicable -2 Proxy says cannot ask SP -3 Proxy says can ask SP but SP unable to answer -4 SP did not attempt to draw clock -7 SP refused to draw clock -9 Missing
MO Section		
mo1doutsfdf R1 D GO OUTSIDE SELF SP File (MO Section)	1 if MO7 = 4 2 if (MO6 = 2 or MO7 = 1 to 3) and MO8 = 1 3 if (MO6 = 2 or MO7 = 1 to 3) and MO8 = 2 to 4 4 if ((MO6 = -7 or -8) or (MO7 = -7 or -8)) and MO8 = 1 5 if ((MO6 = -7 or -8) or (MO7 = -7 or -8)) and MO8	1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty 4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty

	<p>= 2 to 4 6 if MO7 = 1 to 3 and MO8 = -7 or -8 7 if ((MO6 = -7 or -8) or (MO7 = -7 or -8)) and MO8 = -7 or -8 8 if MO1 = 5 -1 if r1dresid = 3 or 4</p>	<p>7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable</p>
<p>mo1doutdevi R1 D GO OUTSIDE USING DEVICES SP File (MO Section)</p>	<p>1 if (MO2 = 5 and MO3 = 5 or -1 and MO4 = 5 or -1 and MO5=5 or -1) or (MO2 = 5 or -1 and MO3 = 5 and MO4 = 5 or -1 and MO5=5 or -1) or (MO2 = 5 or -1 and MO3 = 5 or -1 and MO4 = 5 and MO5=5 or -1) or (MO2 = 5 or -1 and MO3 = 5 or -1 and MO4 = 5 or -1 and MO5=5) or MD1 = 2 2 if (MO2 = 1 to 4) or (MO3 = 1 to 4) or (MO4 = 1 to 4) or (MO5=1 to 4) 3 if MD1 =1 and (MO2 = -7 or -8 or -1) and (MO3 = -7 or -8 or -1) and (MO4=-7 or -8 or -1) and (MO5=-7 or-8 or -1) 4 if MD1 = -7 or -8 8 if MO1=5 -1 if r1dresid = 3 or 4</p>	<p>1 No use of devices to go outside in last month 2 Use of devices to go outside in last month 3 DKRF if used devices to go outside in last month 4 DKRF if used devices in last month 8 Not done in last month -1 Inapplicable</p>
<p>mo1douthelp R1 D GO OUTSIDE USING HELP SP File (MO Section)</p>	<p>1 if MO6 = 2 2 if MO6 = 1 3 if MO6 = -7 or -8 8 if MO1 = 5 -1 if r1dresid = 3 or 4</p>	<p>1 No help to go outside in last month 2 Had help to go outside in last month 3 DKRF if had help to go outside in last month 8 Not done in last month -1 Inapplicable</p>
<p>mo1dinsdsfdf R1 D MOVE INSIDE SELF SP File (MO Section)</p>	<p>1 if MO20 = 4 2 if (MO18 = 2 or MO20 = 1 to 3) and MO21 = 1 3 if (MO18 = 2 or MO20 = 1 to 3) and MO21 = 2-4 4 if ((MO 18 = -7 or -8) or (MO20 = -7 or-8)) and MO21 =1 5 if ((MO 18 = -7 or -8) or (MO20 = -7 or -8)) and MO21 =2-4 6 if ((MO18 = 2) or (MO20 = 1 to 3)) and MO21 = -7 or -8 7 if ((MO 18 = -7 or -8) or (MO20 = -7 or -8)) and MO21 = -7 or -8 8 if MO12 = 5 -1 if r1dresid = 3 or 4</p>	<p>1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty 4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable</p>

<p>mo1dinsddevi R1 D MOVE INSIDE WITH DEVICES SP File (MO Section)</p>	<p>1 if (MO13 = 5 and MO14 = 5 or -1 and MO15 = 5 or -1 and MO16 =5 or -1) or (MO13 = 5 or -1 and MO14 = 5 and MO15 = 5 or -1 and MO16=5 or -1) or (MO13 = 5 or -1 and MO14 = 5 or -1 and MO15 = 5 and MO16=5 or -1) or (MO13 = 5 or -1 and MO14 = 5 or -1 and MO15 = 5 or -1 and MO16= 5) or MD1 = 2 2 if (MO13 = 1 to 4) or (MO14 = 1 to 4) or (MO15 = 1 to 4) or (MO16 =1 to 4) 3 if MD1 =1 and (MO13 = -7 or -8 or -1) and (MO14 = -7 or -8 or -1) and (MO15 = -7 or -8 or -1) and (M16 =-7 or -8 or -1) 4 if MD1 = -7 or -8 8 if MO12 = 5 -1 if r1dresid = 3 or 4</p>	<p>1 No use of devices inside in last month 2 Use of devices inside in last month 3 DKRF if used devices inside in last month 4 DKRF on use of devices 8 Not done in last month -1 Inapplicable</p>
<p>mo1dinsdhelp R1 D MOVE INSIDE W HELP SP File (MO Section)</p>	<p>1 if MO18 = 2 2 if MO18 = 1 3 if MO18 = -7 or-8 8 if MO12 = 5 -1 if r1dresid = 3 or 4</p>	<p>1 No help to go around inside in last month 2 Had help to go around inside in last month 3 DKRF if had help to go around inside in last month 8 Not done in last month -1 Inapplicable</p>
<p>mo1dbedsfdf R1 D GET OUT OF BED SP File (MO Section)</p>	<p>1 if MO26=4 2 if (MO25 = 2 or MO26 = 1 to 3) and MO27 = 1 3 if (MO25 = 2 or MO26 = 1 to 3) and MO27 = 2-4 4 if ((MO25 = -7 or -8) or (MO26 = -7 or -8)) and MO27 = 1 5 if ((MO25 = -7 or -8) or (MO26 = -7 or -8)) and MO27 = 2-4 6 if ((MO25 = 2) or (MO26 = 1 to 3)) and MO27 = -7 or -8 7 if ((MO25 = -7 or -8) or (MO26 = -7 or -8)) and MO27 = -7 or -8 -1 if r1dresid = 3 or 4</p>	<p>1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty 4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty -1 Inapplicable</p>
<p>mo1dbeddevi R1 D DEVICE USE 2 GET OUT OF BED SP File (MO Section)</p>	<p>1 if MD1 = 2 or MO24 = 5 or (MD2 = 2 and MD3=2) or (MD2 = 2 and MD3 = -7 or -8) or (MD3 = 2 and MD2 = -7 or -8) 2 if MO24 = 1-4 3 if MO24 = -7 or -8 4 if (MD1 = -7 or -8) or (MD1 = 1 and (MD2 = -7 or</p>	<p>1 No use of cane or walker to get out of bed in last month 2 Use of cane or walker to get out of bed in last month 3 DKRF if used cane or walker to get out of bed in last month 4 DKRF if used cane or walker in last month</p>

	-8) and (MD3 = -7 or -8)) -1 if r1dresid = 3 or 4	-1 Inapplicable
mo1dbedhelp R1 D HELP TO GET OUT OF BED SP File (MO Section)	1 if MO25 = 2 2 if MO25 = 1 3 if MO25 = -7 or -8 -1 if r1dresid = 3 or 4	1 No help to get out of bed in last month 2 Had help to get out of bed in last month 3 DKRF if had help to get out of bed in last month -1 Inapplicable
DM Section		
dm1dhlpyr R1 D ANY MOBILITY HELP LAST YEAR SP File (DM Section)	1 if DM1 = 1 or DM2 = 1 or 2 or MO6 = 1 or MO18 = 1 or MO25 = 1 2 if DM1 = 2 -7 if DM1 = -7 or DM2 = -7 -8 if DM1 = -8 or DM2 = -8 Else -1	1 Mobility help in last year 2 No mobility help in last year -1 Inapplicable -7 RF -8 DK
dm1dhlpst R1 D MTHS MOBILITY HELP STARTED SP File (DM Section)	0 if DM2 = 2 and interview month = month in DM3B 1 if DM2 = 2 and month in DM3B is 1 month prior to interview month (e.g. DM3B = April and interview month = May) 2 if DM2 = 2 and month in DM3B is 2 months prior to interview month (e.g. DM3B = March and interview month = May) Etc. 11 if DM2 = 2 and month in DM3B is 11 months prior to interview month (e.g. DM3B = June and interview month = May) -7 if DM2 = 2 and DM3B = -7 -8 if DM2 = 2 and DM3B = -8 Else -1	0 Less than 1 month of help 1 to 11 Number of months of help -1 Inapplicable -7 Help last month but RF number of months of help in year -8 Help last month but DK number of months of help in year
dm1dhlpend R1 D MONTHS MOBILITY HELP ENDED SP File (DM Section)	1 if DM1 = 1 and month in DM3B is 1 month prior to interview month (e.g. DM3B = April and interview month = May) 2 if DM1 = 1 and month in DM3B is 2 months prior to interview month (e.g. DM3B = March and interview month = May) Etc. 11 if DM1 = 1 and month in DM3B is 11 months prior to interview month (e.g. DM3B = June and	1 1 month since help ended 2 to 11 Number of months since help needed -1 Inapplicable -7 No help last month but RF number of months since help ended -8 No help last month but DK number of months since help ended

	<p>interview month = May) -7 if DM1 = 1 and DM3B = -7 -8 if DM1 = 1 and DM3B = -8 Else -1</p>	
<p>dm1dhlpyrs R1 D YEARS OF MOBILITY HELP SP File (DM Section)</p>	<p>0 if DM1 = 2 (no help last year) or DM2 = 2 (less than a year) 997 if DM3A = 997 or number in DM3A > age 90 if number in DM3A ≥ 90 Else = number in DM3A; -7 if DM2 = 1 and DM3A = -7 -8 if DM2 = 1 and DM3A = -8 Else -1</p>	<p>0 None or less than 1 year of help 1 to N Years of help 997 Help since birth -7 RF -8 DK -1 Inapplicable</p>
<p>dm1ddeviyr R1 D MOB DEVICE USE LAST YR SP File (DM Section)</p>	<p>1 if DM4 = 1 or DM5 = 1 or 2 or CANEflag= 1 or WALKER flag = 1 or WHEELCHAIRflag = 1 or SCOOTERflag = 1 2 if DM4 = 2 -7 if DM4 = -7 or DM5 = -7 -8 if DM4 = -8 or DM5 = -8 Else -1</p>	<p>1 Mobility device use in last year 2 No Mobility device use in last year -1 Inapplicable -7 RF -8 DK</p>
<p>dm1ddevist R1 D MTHS DEVICE USE SINCE START SP File (DM Section)</p>	<p>0 if DM5 = 2 and interview month = month in DM6B 1 if DM5 = 2 and month in DM6B is 1 month prior to interview month (e.g. DM6B = April and interview month = May) 2 if DM5 = 2 and month in DM6B is 2 months prior to interview month (e.g. DM6B = March and interview month = May) Etc. 11 if DM5 = 2 and month in DM6B is 11 months prior to interview month (e.g. DM6B = June and interview month = May) -7 if DM5 = 1 and DM6B = -7 -8 if DM5 = 2 and DM6B = -8 Else -1</p>	<p>0 Less than 1 month of mobility device use 1 to 11 Number of months of mobility device use -1 Inapplicable -7 Used last month but RF number of months of use in year -8 Used last month but DK number of months of use in year</p>
<p>dm1ddeviend R1 D MONTHS DEVICE USE SINCE END SP File (DM Section)</p>	<p>1 if DM4 = 1 and month in DM6B is 1 month prior to interview month (e.g. DM6B = April and interview month = May)</p>	<p>1 1 month since mobility device use ended 2 to 11 Number of months since mobility device use ended -1 Inapplicable</p>

	<p>2 if DM4 = 1 and month in DM6B is 2 months prior to interview month (e.g. DM6B = March and interview month = May)</p> <p>Etc.</p> <p>11 if DM4 = 1 and month in DM6B is 11 months prior to interview month (e.g. DM6B = June and interview month = May)</p> <p>-7 if DM4 = 1 and DM6B = -7</p> <p>-8 if DM4 = 1 and DM6B = -8</p> <p>Else -1</p>	<p>-7 No use last month but RF number of months since device use ended</p> <p>-8 No use last month but DK number of months since device use ended</p>
<p>dm1ddeviyrs</p> <p>R1 D YEARS OF DEVICE USE</p> <p>SP File (DM Section)</p>	<p>0 if DM4 = 2 (no device use last year) or DM5 = 2 (less than a year)</p> <p>997 if DM6A = 997 or DM6A > age</p> <p>90 if number in DM6A ≥ 90</p> <p>Else = number in DM6A</p> <p>-7 if DM5 = 1 and DM6A = -7</p> <p>-8 if DM5 = 1 and DM6A = -8</p> <p>Else -1</p>	<p>0 None or less than 1 year of mobility device use</p> <p>1 to N Years of use</p> <p>997 Since birth/entire life</p> <p>-7 RF</p> <p>-8 DK</p> <p>-1 Inapplicable</p>
HA Section		
<p>ha1dlaunsfdf</p> <p>R1 D LAUNDRY SELF AND DIFF LEVEL</p> <p>SP File (HA Section)</p>	<p>1 if (HA1 = 2 or 3) or HA1A = 2</p> <p>2 if (HA1 = 1 or HA1A = 1) and HA5 = 1</p> <p>3 if (HA1 = 1 or HA1A = 1) and HA5 = 2-4</p> <p>4 if HA1 = -7 or -8 and HA5 = 1</p> <p>5 if HA1 = -7 or -8 and HA5 = 2-4</p> <p>6 if (HA1 = 1 or HA1A = 1) and HA5 = -7 or -8</p> <p>7 if (HA1 = -7 or -8 and HA5 = -7 or -8) or (HA1A = -7 or -8 and HA5 = -1)</p> <p>8 if HA1 = 5</p> <p>-1 if r1dresid = 3 or 4</p>	<p>1 Did not do by self in last month</p> <p>2 Did by self in last month/no difficulty</p> <p>3 Did by self in last month/difficulty</p> <p>4 DKRF did by self in last month/no difficulty</p> <p>5 DKRF did by self in last month/difficulty</p> <p>6 Did by self in last month/DKRF difficulty</p> <p>7 DKRF did by self in last month/DKRF difficulty</p> <p>8 Not done in last month</p> <p>-1 Inapplicable</p>
<p>ha1dlaunreas</p> <p>R1 D LAUNDRY REASN WITH BY OTHERS</p> <p>SP File (HA Section)</p>	<p>1 if reason given in HA4 is health/functioning only</p> <p>2 if reason given in HA4 is other only</p> <p>3 if both health/functioning and other reason given in HA4</p> <p>4 if BOXHA4 indicates help is SERVICE/SOMEONE FROM THE PLACE SP LIVES</p> <p>-7 if refused reason or HA1 = -7</p> <p>-8 if refused reason or HA1 = -8</p>	<p>1 Health/functioning reason only</p> <p>2 Other reason only</p> <p>3 Both health/functioning and other reason</p> <p>4 Service/someone from the place SP lives</p> <p>-1 Inapplicable</p> <p>-7 RF</p> <p>-8 DK</p>

	-1 if r1dresid = 3 or 4 or HA1 = 1	
ha1dshopsfdf R1 D SLF SHOPPING AND DIFF LEVEL SP File (HA Section)	1 if (HA20 = 2 or 3) or HA20A = 2 2 if (HA20 = 1 or HA20A = 1) and HA27 = 1 3 if (HA20 = 1 or HA20A = 1) and HA27 = 2-4 4 if HA20 = -7 or -8 and HA27 = 1 5 if HA20 = -7 or -8 and HA27 = 2-4 6 if (HA20 = 1 or HA20A = 1) and HA27 = -7 or -8 7 if (HA20 = -7 or -8 and HA27 = -7 or -8) or (HA20A = -7 or -8) 8 if HA20 = 5 -1 if r1dresid = 3 or 4	1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty 4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable
ha1dshopreas R1 D SHOP REASN WITH BY OTHERS SP File (HA Section)	1 if reason given in HA26 is health/functioning only 2 if reason given in HA26 is other only 3 if both health/functioning and other reason given in HA26 4 if BOXHA26 indicates help is SERVICE/SOMEONE FROM THE PLACE SP LIVES -7 if refused reason or HA20 = -7 -8 if refused reason or HA20 = -8 -1 if r1dresid = 3 or 4 or HA20 = 1	1 Health/functioning reason only 2 Other reason only 3 Both health/functioning and other 4 Service/someone from the place SP lives -1 Inapplicable -7 RF -8 DK
ha1dmealsfdf R1 D SELF MEALS AND DIFF LEVEL SP File (HA Section)	1 if (HA30 = 2 or 3) or HA30A = 2 2 if (HA30 = 1 or HA30A = 1) and HA34 = 1 3 if (HA30 = 1 or HA30A = 1) and HA34 = 2-4 4 if HA30 = -7 or -8 and HA34 = 1 5 if HA30 = -7 or -8 and HA34 = 2-4 6 if (HA30 = 1 or HA30A = 1) and HA34 = -7 or -8 7 if (HA30 = -7 or -8 and HA34 = -7 or -8) or (HA30A = -7 or -8) 8 if HA30 = 5 -1 if r1dresid = 3 or 4	1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty 4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable
ha1dmealreas R1 D MEALS REASN WITH BY OTHERS SP File (HA Section)	1 if reason given in HA33 is health/functioning only 2 if reason given in HA33 is other only 3 if both health/functioning and other reason given in HA33 4 if BOXHA33 indicates help is SERVICE/SOMEONE FROM THE PLACE SP LIVES -7 if refused reason or HA30 = -7	1 Health/functioning reason only 2 Other reason only 3 Both health/functioning and other 4 Service/someone from the place SP lives -1 Inapplicable -7 RF -8 DK

	-8 if refused reason or HA30 = -8 -1 if (r1dresid = 3 or 4 or HA30 = 1 (always did by self))	
ha1dbanksfdf R1 D SELF BANKS AND DIFF LEVEL SP File (HA Section)	1 if (HA40 = 2 or 3) or HA40A = 2 2 if (HA40 = 1 or HA40A = 1) and HA44 = 1 3 if (HA40 = 1 or HA40A = 1) and HA44 = 2-4 4 if HA 40 = -7 or -8 and HA44 = 1 5 if HA 40 = -7 or -8 and HA44 = 2-4 6 if (HA40 = 1 or HA40A = 1) and HA44 = -7 or -8 7 if (HA40 = -7 or -8 and HA44 = -7 or -8) or (HA40A = -7 or -8) 8 if HA40A = 5 -1 if r1dresid = 3 or 4	1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty 4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable
ha1dbankreas R1 D BANK BILL REASN WITH BY OTH SP File (HA Section)	1 if reason given in HA43 is health/functioning only 2 if reason given in HA43 is other only 3 if both health/functioning and other reason given in HA43 4 if BOXHA43 indicates help is SERVICE/SOMEONE FROM THE PLACE SP LIVES -7 if refused reason or HA40 = -7 -8 if refused reason or HA40 = -8 -1 if r1dresid = 3 or 4 or HA40 = 1	1 Health/functioning reason only 2 Other reason only 3 Both health/functioning and other 4 Service/someone from the place SP lives -1 Inapplicable -7 RF -8 DK
SC Sections		
sc1deatdevi R1 D USES DEVICES WHILE EATING SP File (SC Section)	1 if SC1 = 2 2 if SC1 = 1 3 if SC1 = -7 or -8 8 if SC1 = 7 -1 if r1dresid = 3 or 4	1 No use of adapted utensils in last month 2 Use of adapted utensils in last month 3 DKRF if used adapted utensils in last month 8 Not done in last month -1 Inapplicable
sc1deathelp R1 D HAS HELP EATING SP File (SC Section)	1 if SC3 = 2 2 if SC3 = 1 3 if SC3 = -7 or -8 8 if SC1 = 7 -1 if r1dresid = 3 or 4	1 No help eating in last month 2 Had help eating in last month 3 DKRF if had help eating in last month 8 Not done in last month -1 Inapplicable
sc1deatsfdf R1 D DIFF EATING BY SELF WO HELP SP File (SC Section)	1 if SC4 = 4 2 if SC5 = 1 3 if SC5 = 2 or 3 or 4 6 if (SC3 = 1 and (SC4 = -7 or -8 or SC5 = -7 or -8)) or	1 Did not do by self in last month 2 No difficulty by self (and when using utensils) 3 Difficulty by self (and when using utensils) 6 Did by self in last month/DKRF difficulty

	<p>((SC3 = 2) and (SC5 = -7 or -8)) 7 if (SC3 = -7 or -8 and SC5 = -7 or -8) 8 if SC1 = 7 -1 if r1dresid = 3 or 4</p>	<p>7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable</p>
<p>sc1dbathdevi R1 D USES DEVICES WHILE BATHING SP File (SC Section)</p>	<p>1 if [(fl1bathgrbbr = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC9 =5) and (fl1bathseat = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC10 = 5)] or [(fl1bathgrbbr = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC9 =5) and (fl1bathseat NE 1)] or [(fl1bathseat = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC10 =5) and (fl1bathgrbbr NE 1)]</p> <p>2 if SC9 =1 to 4 or SC10 = 1 to 4</p> <p>3 if [(fl1bathgrbbr= 1 or flbathseat = 1) and (sc1showrbat1 = -7 or -8 and sc1showrbat2 = -7 or -8 and sc1showrbat3= -7 or -8)]or [(fl1bathgrbbr = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC9 = -7 or -8) and (fl1bathseat = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC10 = -7 or -8)] or [(fl1bathgrbbr = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC9 =-7 or -8) and fl1bathseat NE 1)] or [(fl1bathseat = 1 and (fl1showering = 1 or fl1takingbth = 1) and SC10 =-7 or -8) and fl1bathgrbbr NE 1]</p> <p>4 if (ho1bathamen3 = -7 or -8 and ho1bathamen4 = -7 or -8) or (ho1bathamen3 = -7 or -8 and ho1bathamen4 = 2) or (ho1bathamen3 = 2 and ho1bathamen4 = -7 or -8)</p> <p>9 if (sc1showrbat1 = NE 1 and sc1showrbat2 = NE 1 and sc1showrbat3 = 1) or (SC8 = 3) or</p>	<p>1 No use of grab bars or bath seats in last month 2 Use of grab bars or bath seats in last month 3 DKRF use of grab bars or bath seat in last month 4 DKRF if had grab bars or bath seats in last month 9 No grab bars or bath seats or washes up (does not shower or bathe) or has no shower or bathtub -1 Inapplicable</p>

	(ho1bathamen1 = 2 and ho1bathamen2 = 2) or (ho1bathamen3 = 2 and ho1bathamen4 = 2) -1 if r1dresid = 3 or 4	
sc1dbathhelp R1 D HAS HELP WHILE BATHING SP File (SC Section)	1 if SC11=2 2 if SC11 = 1 3 if (SC7 = -7 or -8) or (SC11 = -7 or -8) -1 if r1dresid = 3 or 4	1 No help bathing in last month 2 Had help bathing in last month 3 DKRF if had help bathing in last month -1 Inapplicable
sc1dbathsdf R1 D DIFF BATHING SELF NO HELP SP File (SC Section)	1 if SC12 = 4 2 if SC13 = 1 3 if SC13 = 2 or 3 or 4 6 if (SC11 = 1 and (SC12 = -7 or -8 or SC13 = -7 or -8)) or (SC11 = 2 and (SC13 = -7 or -8)) 7 if (sc1showrbat1 = -7 or -8 and sc1showrbat2 = -7 or -8 and sc1showrbat3 = -7 or -8) or (SC11 = -7 or -8 and SC13 = -7 or -8) -1 if r1dresid = 3 or 4	1 Did not do by self in last month 2 No difficulty by self (and when using grab bars or tub seat) 3 Difficulty by self (and when using grab bars or tub seat) 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty -1 Inapplicable
sc1dtoildevi R1 D USES DEVICE WHILE TOILETING SP File (SC Section)	1 if (SC16a = 2 and SC16b = 2 and ho1bathamen5 = 2 and ho1bathamen6 = 2) or (SC16a = 2 and SC16b = 2 and (fl1raisedtlt = 1 and SC16d = 2) and ho1bathamen6 = 2) or (SC16a = 2 and SC16b = 2 and ho1bathamen5 = 2 and (fl1tlgrbbr=1 and SC16c=2)) or (SC16a = 2 and SC16b = 2 and (fl1raisedtlt = 1 and SC16d = 2) and (fl1tlgrbbr=1 and SC16c=2)) 2 if SC16a = 1 or SC16b = 1 or SC16c = 1 or SC16d = 1 -1 if r1dresid = 3 or 4 Else 3	1 No use of toileting devices in last month 2 Use of toileting devices in last month 3 DKRF of some and no use of other toileting devices in last month -1 Inapplicable
sc1dtoilhelp R1 D HAS HELP WHILE TOILETING SP File (SC Section)	1 if SC17=2 2 if SC17 = 1 3 if SC17 = -7 or -8 -1 if r1dresid = 3 or 4	1 No help toileting in last month 2 Had help toileting in last month 3 DKRF if had help toileting in last month -1 Inapplicable

sc1dtoilsfdf R1 D DIFF LEVEL TOILETING SELF SP File (SC Section)	1 if SC18 = 4 2 if SC19 = 1 3 if SC19 = 2 or 3 or 4 6 if (SC17 = 1 and (SC18 = -7 or -8 or SC19 = -7 or -8)) or (SC17 = 2 and (SC19 = -7 or -8)) 7 if (SC17 = -7 or -8) and (SC18 = -7 or -8) and (SC19 = -7 or -8) -1 if r1dresid = 3 or 4	1 Did not do by self in last month 2 No difficulty by self (and when using toileting devices) 3 Difficulty by self (and when using toileting devices) 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty -1 Inapplicable
sc1ddresdevi R1 D USES DEVICES WHILE DRESSING SP File (SC Section)	1 if SC22 = 2 2 if SC22 = 1 3 if SC22 = -7 or -8 8 if SC21 = 5 9 if SC21 = -7 or -8 -1 if r1dresid = 3 or 4	1 No use of dressing devices in last month 2 Use of dressing devices in last month 3 DKRF if use of dressing devices in last month 8 Not done in last month 9 DKRF if dressed in last month -1 Inapplicable
sc1ddreshelp R1 D HAS HELP WHILE DRESSING SP File (SC Section)	1 if SC23 = 2 2 if SC23 = 1 3 if SC23 = -7 or -8 -1 if r1dresid = 3 or 4	1 No help dressing in last month 2 Had help dressing in last month 3 DKRF if had help dressing in last month -1 Inapplicable
sc1ddressfdf R1 D DIFF LEVEL DRESSING SELF SP File (SC Section)	1 if SC24 = 4 2 if SC25 = 1 3 if SC25 = 2 or 3 or 4 6 if (SC23 = 1 and (SC24 = -7 or -8 or SC25 = -7 or -8)) or (SC23 = 2 and (SC25 = -7 or -8)) 7 if (SC21 = -7 or -8) or (SC23 = -7 or -8 and SC25 = -7 or -8) 8 if SC21 = 5 -1 if r1dresid = 3 or 4 (nursing home resident or residential care FQ only)	1 Did not do by self in last month 2 No difficulty by self (and when using dressing devices) 3 Difficulty by self (and when using dressing devices) 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month -1 Inapplicable
DS Section		
ds1dhlpyr R1 D ANY SELF CARE HELP LAST YEAR SP File (DS Section)	1 if DS1 = 2 2 if DS1 = 1 or DS2 = 1 or 2 or SC3 = 1 or SC11 = 1 or SC17 = 1 or SC23 = 1 -7 if DS1 = -7 or DS2 = -7 -8 if DS1 = -8 or DS2 = -8 Else -1	1 No self care help in last year 2 Self care help in last year -1 Inapplicable -7 RF -8 DK
ds1dhlpst R1 D MTHS SINCE SLF CARE HELP ST	0 if DS2 = 2 and interview month = month in DS3B 1 if DS2 = 2 and month in DS3B is 1 month prior to	0 Less than 1 month of self care help 1 to 11 Number of months of self care help

<p>SP File (DS Section)</p>	<p>interview month (e.g. DS3B = April and interview month = May) 2 if DS2 = 2 and month in DS3B is 2 months prior to interview month (e.g. DS3B = March and interview month = May) Etc. 11 if DS2 = 2 and month in DS3B is 11 months prior to interview month (e.g. DS3B = June and interview month = May) -7 if DS2 = 2 and DS3B = RF -8 if DS2 = 2 and DS3B = DK Else -1</p>	<p>-1 Inapplicable -7 Help in last month but RF number of months of help in last year -8 Help in last month but DK number of months of help in last year</p>
<p>ds1dhlpend R1 D MTHS SINCE SLF CARE HLP END SP File (DS Section)</p>	<p>1 if DS1 = 1 and month in DS3B is 1 month prior to interview month (e.g. DS3B = April and interview month = May) 2 if DS1 = 1 and month in DS3B is 2 months prior to interview month (e.g. DS3B = March and interview month = May) Etc. 11 if DS1 = 1 and month in DS3B is 11 months prior to interview month (e.g. DS3B = June and interview month = May) -7 if DS1 = 1 and DS3B = -7 -8 if DS1 = 1 and DS3B = -8 Else -1</p>	<p>1 1 month since self care help ended 2 to 11 Number of months since self care help ended -1 Inapplicable -7 No help last month but RF number of months since help ended -8 No help last month but DK number of months since help ended</p>
<p>ds1dhlpyrs R1 D YEARS HELP IN CARING 4 SELF SP File (DS Section)</p>	<p>0 if DS1 = 2 (no help last year) or DS2 = 2 (less than a year) 997 if DS3A = 997 or DS3A > age 90 if number in DM3A ≥ 90 Else = number in DS3A -7 if DS2 = 1 and DS3A = -7 -8 if DS2 = 1 and DS3A = -8 Else -1</p>	<p>0 None or less than 1 year 1 to N Numbers of years 997 Since birth/entire life -1 Inapplicable -7 RF -8 DK</p>
<p>MC Section</p>		
<p>mc1dmedssfdf R1 D DIFF LEVEL MEDICATIONS SELF SP File (MC Section)</p>	<p>1 if (MC2 = 2 or 3) or MC2A = 2 2 if (MC2 = 1 or MC2A = 1) and MC7 = 1 3 if (MC2 = 1 or MC2A = 1) and MC7 = 2-4</p>	<p>1 Did not do by self in last month 2 Did by self in last month/no difficulty 3 Did by self in last month/difficulty</p>

	<p>4 if (MC2 = -7 or -8) and MC7 = 1 5 if MC2 = -7 or -8) and MC7 = 2-4 6 if (MC2 = 1 or MC2A = 1) and MC7 = -7 or -8 7 if (MC2 = -7 or -8) and (MC7 = -7 or -8) 8 if MC2 = 5 9 if MC1 = 2 or -7 or -8 -1 if r1dresid = 3 or 4</p>	<p>4 DKRF did by self in last month/no difficulty 5 DKRF did by self in last month/difficulty 6 Did by self in last month/DKRF difficulty 7 DKRF did by self in last month/DKRF difficulty 8 Not done in last month 9 No or DKRF if medications taken in last month -1 Inapplicable</p>
<p>mc1dmedsreas R1 D MEDS REASN BY WITH OTHERS SP File (MC section)</p>	<p>1 if reason given in MC6 is health/functioning only 2 if reason given in M6 is other only 3 if both health/functioning and other reason given in MC6 4 if BOXMC6 indicates help is SERVICE/SOMEONE FROM THE PLACE SP LIVES -7 if refused reason or MC2 = -7 -8 if refused reason or MC2 = -8 -1 if (r1dresid = 3 or 4 or MC1 = 2 (no medications) or MC2 = 1</p>	<p>1 Health/functioning reason only 2 Other reason only 3 Both health/functioning and other reason 4 Service/someone from the place SP lives -1 Inapplicable -7 RF -8 DK</p> <p>*KNOWN DATA ISSUE: In the MC section, interviewers were unable to select “both health/functioning and other reason” in response to question MC6 “what is the reason someone else kept track of SP’s medicines with/for him/her.” As a result there are no cases in value = 3 for mc1dmdreasn. Validation study data suggest that selection of both for this activity was extremely rare.</p>
PA Section		
<p>pa1dfavact R1 D FAVORITE ACTIVITY SP File (PA Section)</p>	<p>These codes were developed based on review of verbatim responses obtained during interviews.</p>	<p>Self-care activities 111 Sleeping; Napping 131 Eating 132 Going out to eat 199 Other self-care activities Productive activities 211 Work and work-related activities 221 Other income generating activities 241 Volunteering 299 Other productive activities Shopping 321 Shopping for non-durable goods 399 Other shopping</p>

Household activities

- 411 Food and drink preparation
- 434 Outdoor Maintenance
- 439 Household chores (indoor/outdoor)
- 441 Animal and pet care
- 442 Walking and exercising pets
- 449 Other animal and pet care
- 451 Vehicle maintenance and repair
- 471 Financial management
- 499 Other household activities

Care of others

- 511 Physical care and assistance to others
- 599 Other physical care

Socializing

- 611 Socializing with others in person
- 612 Socializing with others on the phone
- 616 Socializing and communicating on the computer

Non active leisure

- 621 Watching TV and movies
- 631 Doing puzzles or games not on computer or online
- 632 Gambling not online or at a casino
- 636 Doing puzzles or games on a computer or online
- 641 Arts and crafts or hobbies
- 642 Reading
- 643 Writing
- 644 Listening to music
- 646 Computer or online leisure activities
- 651 Smoking or other tobacco use
- 652 Drinking alcohol
- 661 Doing nothing/relaxing
- 669 No activity
- 699 Other non active leisure

Active leisure

- 711 Playing sports
- 712 Walking or jogging
- 713 Other outdoor recreating activities
- 714 Attending sporting events

		718 Watching sporting events 721 Attending arts including plays and concerts 723 Attending movies 724 Attending casinos 737 Travel for leisure 799 Other active leisure Religious and organizational activities 811 Attending religious activities 812 Other religious and spiritual activities 821 Attending meetings or events 899 Other organizational activity 991 Other miscellaneous 992 No favorite activity 997 RF 998 DK 999 Not Codeable
EL Section		
el1dage2us R1 D AGE CAME TO US SP File (EL Section)	997 if EL1 = 1 0 If EL4 year = SP birth year or EL4b = 0 1 to XXX (EL4 year minus SP birth year or age in EL4b) -7 if EL4A = -7 -8 if EL4A = -8 -1 if r1dresid = 3 or 4	0 Less than age 1 1 to N Age 997 Born in US -1 Inapplicable -7 DK -8 RF
el1dsameres R1 D CITY STATE NOW AND AGE 15 SP File (EL Section)	1 if EL9A city and EL9B state match RE address city and state 2 if (EL9A city does not match RE address city or EL9A = -7 or -8) and EL9B state does match RE address state 3 if EL9A city does not match and EL9B state does match RE address city and state -1 if r1dresid = 3 or 4 or ((EL1 = 2 or DK or RF) and (EL4b >15 or EL4a minus SP's BIRTH YEAR >15))	1 Lives in same City and State as at age 15 2 Lives in same state but different City (or DKRF city) as age 15 3 Does not live in same State as age 15 -1 Inapplicable
RL Section		
r11dracehisp R1 D RACE AND HISPANIC ETHNICITY SP File (RL Section)	1 if (r1dresid = 3 or 4 and FQ confirmed = White) or (r1dresid = 1 or 2 and r11primarace = 1 and r11hisplatno = 2 or -7 or -8) or (r1dresid = 1 or 2	1 White, non-Hispanic 2 Black, non-Hispanic 3 Other (Am Indian/Asian/Native Hawaiian/Pacific

	<p>and r1yourrace1 = 1 and r1primarace = - 1 [not applicable] and r1hisplatno = 2 or -7 or -8)</p> <p>2 if (r1dresid = 3 or 4 and FQ confirmed = Black) or (r1dresid = 1 or 2 and RL2 = 2 and RL3 = 2 or -7 or -8) or (r1dresid = 1 or 2 and RL1 = 2 and RL2 = - 1 [not applicable] and RL3 = 2 or -7 or -8)</p> <p>3 if (r1dresid = 3 or 4 and FQ confirmed not White or Black) or (r1dresid = 1 or 2 and RL2 = 3 or 4 or 5 or 6 or 7 or 8 and RL3 = 2 or -7 or -8) or (r1dresid = 1 or 2 and RL1 = 3 or 4 or 5 or 6 or 7 or 8 and RL2 = - 1 and RL3 = 2 or -7 or -8)</p> <p>4 if (r1dresid = 3 or 4 and FQ confirmed Hispanic) or (r1dresid = 1 or 2 and RL3 = 1)</p> <p>5 if (r1dresid = 1 or 2 and RL1 = -7 or -8 and RL3= 2 or -7 or -8) or FQ could not confirm race</p>	<p>Islander/other specify), non-Hispanic</p> <p>4 Hispanic</p> <p>5 DKRF</p>
AB Section		
<p>ba1dblssadm R1 D BALANCE SIDE BY SIDE ADMIN SP File (AB Section)</p>	<p>1 if BA3 = 1 or 2 or 3 2 if BA3 NE 1 and BA3 NE 2 and BA3 NE 3 4 if BALANCESTANDS flag = 2; -1 if r1dresid = 3 or 4</p>	<p>1 Eligible and recorded result for side by side balance 2 Eligible and no recorded result for side by side balance 4 Not eligible due to exclusion criteria -1 Inapplicable</p>
<p>ba1dblstadm R1 D BALANCE SEMI TANDEM ADMIN SP File (AB Section)</p>	<p>1 if BA7 = 1 or 2 or 3 2 if BA7 NE 1 and BA7 NE 2 and BA7 NE 3 3 if BA3 = 2 or 3 4 if BALANCESTANDS flag = 2 -1 if r1dresid = 3 or 4</p>	<p>1 Eligible and recorded result for semi tandem balance 2 Eligible and no recorded result for semi tandem balance 3 Not administered because did not complete prior balance test 4 Not eligible due to exclusion criteria -1 Inapplicable</p>
<p>ba1dblftadm R1 D BALANCE FULL TANDEM ADMIN SP File (AB Section)</p>	<p>1 if BA11 = 1 or 2 or 3 2 if BA11 NE 1 and BA11 NE 2 and BA11 NE 3 3 if BA3 = 2 or 3 or BA7 = 2 or 3 4 if BALANCESTANDS flag = 2</p>	<p>1 Eligible and recorded result for full tandem balance 2 Eligible and no recorded result for full tandem balance 3 Not administered because did not complete prior</p>

	-1 if r1dresid = 3 or 4	balance test 4 Not eligible due to exclusion criteria -1 Inapplicable
ba1dblopadm R1 D BALANCE 1 LEG OP EYE ADMIN SP File (AB Section)	1 if BA15 = 1 or 2 or 3 2 if BA15 NE 1 and BA15 NE 2 and BA15 NE 3 3 if BA3 = 2 or 3 or BA7 = 2 or 3 or BA11 = 2 or 3 4 if BALANCESTANDS flag = 2 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for one leg eyes open balance 2 Eligible and no recorded result for one leg eyes open balance 3 Not administered because did not complete prior balance test 4 Not eligible due to exclusion criteria -1 Inapplicable
ba1dblcladm R1 D BALANCE 1 LEG CLS EYE ADMIN SP File (AB Section)	1 if BA19 = 1 or 2 or 3 2 if BA19 NE 1 and BA19 NE 2 and BA19 NE 3 3 if BA3 = 2 or 3 or BA7 = 2 or 3 or BA11 = 2 or 3 or BA15 = 2 or 3 4 if BALANCESTANDS flag = 2 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for one leg eyes closed balance 2 Eligible and no recorded result for one leg eyes closed balance 3 Not administered because did not complete prior balance tests 4 Not eligible due to exclusion criteria -1 Inapplicable
wa1dwlkadm R1 D WALKING COURSE ADMIN SP File (AB Section)	1 if (WA5 = 1 or 2 or 3 and WALKINGCOURSE flag NE 2) or WA2 = 2 5 if WA5 = 1 or 2 or 3 and WALKINGCOURSE flag = 2 Else 4 if WALKINGCOURSE flag = 2 2 if WA5 NE 1 and WA5 NE 2 and WA5 NE 3 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for walking course 2 Eligible and no recorded result for walking course 4 Not eligible on exclusion criteria and no recorded result 5 Not eligible on exclusion criteria but recorded result (SP changed mind) -1 Inapplicable
ch1dschradm R1 D SINGLE CHAIR ADMIN SP File (AB Section)	1 if CH2 = 2 or CH4 = 2 or (CH7 = 1 or 2 or 3) or (CH4 = 1 and CH7 = -1 or -9) 2 if CH7 NE 1 and CH7 NE 2 and CH7 NE 3 4 if CHAIRSTANDS flag = 2 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for single chair stand 2 Eligible and no recorded result for single chair stand 4 Not eligible due to exclusion criteria -1 Inapplicable
ch1drchradm R1 D REPEAT CHAIR ADMIN SP File (AB Section)	1 if CH12 = 1 or 2 or 3 or CH2 = 2 2 if CH12 NE 1 and CH12 NE 2 and CH12 NE 3 3 if CH7 = 2 or 3 or CH8 = 1 or (CH7 = 1 and CH8 = -1 or -9) or (CH4 = 1 and CH7 = -1 or -9) 4 if CHAIRSTANDS flag = 2 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for repeated chair stand 2 Eligible and no recorded result for repeated chair stand 3 Not administered because did not complete single chair stand w/o arms 4 Not eligible due to exclusion criteria

		-1 Inapplicable
gr1dgripadm R1 D GRIP STRENGTH ADMIN SP File (AB Section)	1 if GR5 = 1 or 2 or 3 2 if GR5 NE 1 and GR5 NE 2 and GR5 NE 3 4 if LEFTGRIPTTEST = 2 and RIGHTGRIPTTEST = 2 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for grip strength 2 Eligible and no recorded result for grip strength 4 Not eligible due to exclusion criteria -1 Inapplicable
wc1dwaistadm R1 D WAIST CIRCUMFERENCE ADMIN SP File (AB Section)	1 if WC3 = 1 or 2 or 3 2 if WC3 NE 1 and WC3 NE 2 and WC3 NE 3 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for waist circumference 2 Eligible and no recorded result for waist circumference -1 Inapplicable
pk1dpeakadm R1 D PEAK AIR FLOW ADMIN SP File (AB Section)	1 if PK4 = 1 or 2 or 3 2 if PK4 NE 1 and PK4 NE 2 and PK4 NE 3 -1 if r1dresid = 3 or 4	1 Eligible and recorded result for peak air flow 2 Eligible and no recorded result for peak air flow -1 Inapplicable
r1dnhatssppb R1 D SPPB SCORE NHATS SP File (AB Section)	0 = worst score; 12 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 12 Score -1 Inapplicable -9 Missing
r1dnhatsbasc R1 D BALANCE STAND SCORE NHATS SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dnhatshksc R1 D WALK SCORE NHATS SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dnhatshsc R1 D REPEAT CHR STND SCORE NHATS SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dnhatshgrb R1 D BEST GRIP STRENGTH SCORE SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dnhatshgrav R1 D AVG GRIP STRENGTH SCORE SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dnhatshpkb R1 D BEST PEAK AIR FLOW SCORE SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing

r1dnhatspkav R1 D AVG PEAK AIR FLOW SCORE SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dspbmiss R1 D REASON MISSING SPPB SP File (AB Section)	Categorical variable for persons treated as missing in SPPB scores and reasons. See Kasper, Freedman, Niefeld 2012 for details.	1 Proxy interview 2 Missing walk and repeat chair and balance 3 Missing walk and repeat chair 4 Missing walk and balance 5 Missing repeat chair and balance 6 Missing walk 7 Missing repeat chair 8 Missing balance 9 No space 10 No chair 11 No space walk and no chair 12 No space walk and non-safety missing 13 No chair and non-safety missing 14 Non-safety walk 15 Non-safety chair 16 Non-safety balance 17 Non-safety walk and chair 18 Non-safety walk and balance 19 Non-safety chair and balance 20 Non-safety walk and chair and balance -1 Inapplicable
r1dorigsppb R1 D SPPB SCORE ORIGINAL SP File (AB Section)	0 = worst score; 12 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 12 Score -1 Inapplicable -9 Missing
r1dorigbasc R1 D BALANCE STND SCORE ORIGINAL SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dorigwksc R1 D WALK SCORE ORIGINAL SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
r1dorigchsc R1 D REPEAT CHR STAND SCORE ORIG SP File (AB Section)	0 = worst score; 4 = best score -1 if r1dresid = 3 or 4 -9 missing	0 to 4 Score -1 Inapplicable -9 Missing
LF Section		

lf1doccpty R1 D LONGEST OCCUPATION CATEGORY SP File (LF Section)	Developed from LF11 and LF11a based on the 2010 Census Occupational Classification (see http://www.bls.gov/cps/cenocc.pdf)	1 to 23 94 95 96 -7 -8 -9 -1	Occupation categories Not codeable Never worked entire life Homemaker/raised children RF DK Missing Inapplicable
FQ Section			
fq1dosfacd R1 D FQ6A OTHER SPECIFY FAC TYPE	Coded from FQ6a Other Specify	1 2 3 4 5 6 7 8 9 10 11 -8 -9 -1	Free standing nursing home Free standing assisted living facility/residential care facility Nursing home and assisted living facility Continuing care retirement community (CCRC) Adult family care home Group home Board and care home/ personal care home Retirement community or senior housing (not CCRC) Independent living Assisted and independent (no nursing home) Housing (Apartment, Condo, etc.) DK Missing Inapplicable
fq1dosfaca R1 D FQ10A OTHER SPECIFY FAC AREA	Coded from FQ10a Other Specify	1 2 3 4 -8 -1	Independent living/housing/retirement Assisted living/personal care Special care, memory, or Alzheimer's unit Nursing home DK Inapplicable
fq1dlocsp R1 D FQ6 6A 10 10A FOR SAMP WGT	Variable that identifies type of residential care place SP lives in (other than nursing home). Coded from FQ6, FQ6a, FQ10, FQ10a.	1 2 3 4 8 -1	Independent living/housing/retirement Assisted living/personal care Special care, memory, or Alzheimer's unit Nursing home Not reported Inapplicable

OP File from HL Section		
op1dhrsmth R1 D HL2 HL3 HL4 HRS HELP MONTH SP File (HL Section)	Developed from HL2, HL3, and HL4 9999=cases reporting less than 1 hour per day and number of days helping is missing	1-744 Hours per month 9999 Not codeable, <1 hour/day -12 Valid skip/staff at place SP lives -11 Hours missing -10 Days missing -9 Hours and days missing -1 inapplicable
OP File		
op1dfmiss R1 D NO FLAGS SET FOR PERSON OP file	1 if OP record and no flags are set -1 otherwise	1 Yes -1 Inapplicable
op1dmissadd R1 D WHERE NO FLAGS PERSN ADDED OP file	If op1dfmiss = 1 then 1 to 13 = section where person was added to person roster -1 otherwise	1 added at CL 2 added at DT 3 added at EW 4 added at HA 5 added at HL 6 added at HO 7 added at MC 8 added at MO 9 added at PA 10 added at PE 11 added at SC 12 added at SM -1 Inapplicable
op1dprobdup R1 D OTH PERSN PROBABLE DUPLICAT OP file	For each OPID that is a probable duplicate, the OPID of the probable duplicate. Example: 001 and 005 are probable duplicates. op1dprobdup = 001 for case 005 op1dprobdup = 005 for case 001 -1 otherwise	OPID of duplicate -1 Inapplicable
op1ddupeid R1 D POSSIBLE DUPLICATE OF ID	OPID of op record that is a probable duplicate	