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Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy



DEVELOPMENT OF AN ASSISTIVE TECHNOLOGY AND ENVIRONMENTAL ASSESSMENT INSTRUMENT FOR NATIONAL SURVEYS: FINAL REPORT

PART I. RECOMMENDED MODULES AND INSTRUMENT DEVELOPMENT PROCESS

December 2005

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**DEVELOPMENT OF AN ASSISTIVE TECHNOLOGY
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FOR NATIONAL SURVEYS: FINAL REPORT
Part I. Recommended Modules and Instrument
Development Process**

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FORWARD

This instrument was developed with assistance from many individuals. We are grateful to our colleague Barbara Altman of the National Center for Health Statistics (NCHS) for her efforts in overseeing the cognitive testing and pilot testing of the instrument. Barbara Wilson and Karen Whitaker of NCHS's Questionnaire Design Research Laboratory provided valuable expertise in the cognitive testing of early versions of the instrument. At Westat, Holly Schiffrin, Jim Bethel, and Donna Smith conducted the pilot study and provided important insights to improve the instrument. We also thank our colleagues at Polisher Research Institute: Lisa Landsberg, who served as project manager in preparation for and during the pilot phase of the study and who provided analytic data support to the project, and Morton Kleban, who contributed to statistical analysis of the pilot data. Carol Rayside of the University of Medicine and Dentistry of New Jersey provided helpful administrative support in preparing the final reports.

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I. PURPOSE

The purpose of this project was to develop, pilot, and disseminate a set of instruments for national surveys to measure the use of assistive technology and the environments in which they are used. The project focused on older adults (ages 50 and older) living in the community. The instruments have been designed as a series of modules that can be adopted into a computer-assisted telephone interview (CATI). The full instrument, consisting of five modules, takes approximately 8-10 minutes to administer. We also include a brief (2-3 minute) module.

Although national surveys are limited in the amount and complexity of information that can be collected, they provide rich socioeconomic, demographic, and administrative data that allow generalizable statements about the population. By incorporating more detailed items on assistive technology and the environment, national surveys can provide better insight into a number of important policy issues related to disability and aging. Relevant questions of interest include:

- What is the potential for Americans to age “in place” in their own homes and what role do environmental features and modifications play in housing decisions in later life?
- What role do assistive technologies and home modifications play in the lives of older Americans? How extensively are they used?
- How effective is assistive technology in increasing older Americans’ well-being, social engagement, and participation in valued activities?
- How have mainstream technologies (computers, telephones) affected older adults’ ability to manage their daily activities?
- What is the contribution of technology and the home environment to changes in the prevalence of disability among older Americans?

This report documents steps taken in designing and piloting items to measure assistive technology and the home environment of older adults. The instrument development process involved five steps: development of a conceptual framework; review of existing measures; input from policy makers, survey designers, and an expert panel; cognitive testing with individuals who used assistive devices; and pilot testing with a sample of 360 people ages 50 and over.

In Chapter 2 we present the recommended 8-10 minute instrument and a brief 2-3 minute module, along with an overview of content areas. A final chapter provides more detailed background on steps taken to test and revise the instruments. Frequencies and other results from the pilot test are included in a companion report (available upon request from the corresponding author).

II. RECOMMENDED MODULES

The full (8-10 minute) recommended instrument is divided into five modules: Home Environment, Mobility and Other Devices, Effectiveness/Participation, Information/Communication Technology, and Residual Difficulty. Each module consists of one or more sections, described in more detail below.

- **Home Environment.** This module distinguishes among the *presence, addition, and use* of features in the home that are intended to make daily tasks easier, safer, or so an older adult can do the task independently. The questions are designed to work in a range of residential settings from detached single family housing to multi-unit apartments and assisted living facilities. Items focus on three key areas of the home: the entrance used most often, vertical and horizontal circulation inside the home, and the bathroom. Finally, we include a set of questions about the cost of all mentioned modifications, using an unfolding technique to minimize non-response.
- **Mobility and Other Devices.** This module is designed to collect information for all respondents about whether they used (during the 30-day reference period) each of the four most common mobility devices (cane, walker, wheelchair, and scooter). For those who answer yes to a global screen, we then ask 30-day use of each device for the mobility-related activities of daily living (ADLs). Thirty-day use is also assessed for a variety of other commonly used devices. Two additional sections assess the use of adaptive transportation and the cost of mobility and other devices.
- **Effectiveness.** In this module respondents who report using one or more devices or modifications are asked three questions about how the use of these items has affected their quality of life. The items address the dimensions of safety, control, and participation in valued activities.
- **Information and Communication Technology.** This module focuses on the use of computer and telephone adaptations, as well as use of computers and the telephone to facilitate common activities such as shopping, ordering prescriptions, and managing money.
- **Residual ADL/IADL Difficulty.** The final module asks respondents individualized questions about the difficulty that they have with five ADLs and four instrumental activities of daily living (IADLs). The items differ from those commonly found in national surveys in two ways. First, these items focus on the level of difficulty with activities *when using assistive devices and without help from another person*. Second, the items are tailored to mention the specific list of devices and features reported by each individual.

Although the instrument was purposely designed to be modular, there are some interdependencies across sections (noted in Table 1) that need to be attended to if modules or sections are to be omitted. On average the entire instrument takes eight minutes to administer to a representative sample of persons age 50 and older and ten minutes for a sample of persons ages 65 and older. Average section-specific times (in seconds) are noted in the final column of Table 1.¹

TABLE 1: Content and Timing of Recommended 8-10 Minute Modules				
MODULE (ABBREVIATION) Section (number of items)	Question Numbers	Module or Items Required	Average timing (in seconds)	
			50+	65+
HOME ENVIRONMENT (HE)				
Home (2)	HE-1 to HE-2		18	19
Entrance and Inside Building (10)	HE-3 to HE-8		7	10
Entrance to Home (7)	HE-9 to HE-10.3b		28	30
Inside Home (17)	HE-11 to HE-12.6b		43	47
Bathroom Features (14)	HE-13 to HE-14.2a		65	77
Cost of Modifications (5)	HE-15-INTRO to HE-19		12	16
MOBILITY AND OTHER DEVICES (MO)				
Indoor and Outdoor Mobility (18)	MO-1 to MO-2.5	HE-1	16	19
Other Devices (10)	MO-3.1 to MO-3.10		60	72
Transportation (4)	MO-4.1 to MO-4.2	HE-1	27	30
Cost of Devices (5)	MO-5-INTRO to MO-9		13	18
EFFECTIVENESS/PARTICIPATION (EF)				
Effectiveness/Participation (3)	EF-1-INTRO to EF-3	HE, MO	28	39
COMMUNICATION TECHNOLOGY (CO)				
Computers (10)	CO-1 to CO-3.5		53	60
Telephones (11)	CO-4 to CO-7.4		39	49
RESIDUAL DIFFICULTY (RD)				
Activities of Daily Living (5)	RD-1 to RD-5	HE, MO	40	45
Instrumental Activities of Daily Living (8)	RD-6.1a to RD-6.4b	HE, MO, CO	53	60
Total Average Timing (in minutes)			8.4	9.9

For researchers interested in a shorter questionnaire, we have also recommended a module that takes approximately 2-3 minutes to administer. The module focuses exclusively on the presence, addition, and use of select features inside the home and bathroom and the use of mobility and other common devices. The following table summarizes the content and timing for this condensed module.

¹ We calculated the average time in two steps. First, we calculated the average time per question in each section or subsection of the piloted questionnaire for which we had a time stamp. In making these calculations we used sampling weights that realigned our sample to match national distributions of sex, age group, education, and functioning found in the 2003 National Health Interview Survey (NHIS). Then for each section or subsection we multiplied the average weighted time per question to the final number of questions in the section or subsection.

TABLE 2: Content and Timing of Recommended 2-3 Minute Module			
MODULE (ABBREVIATION) Section (number of items)		Average timing (in seconds)	
		50+	65+
HOME ENVIRONMENT (HE)			
Inside Home	HE-1, HE-11 to HE-12.6b*	50	53
Bathroom Features	HE-13 to HE-14.2a**	55	65
MOBILITY AND OTHER DEVICES (MO)			
Indoor and Outdoor Mobility	MO-1 to MO-2.5	16	19
Other Devices	MO-3.1 to MO-3.4	24	29
Total Average Timing (in minutes)		2.4	2.8
* Excluding HE-12.2, HE-12.2a, HE-12.2b.			
** Excluding HE-13.1b, HE-13.4.			

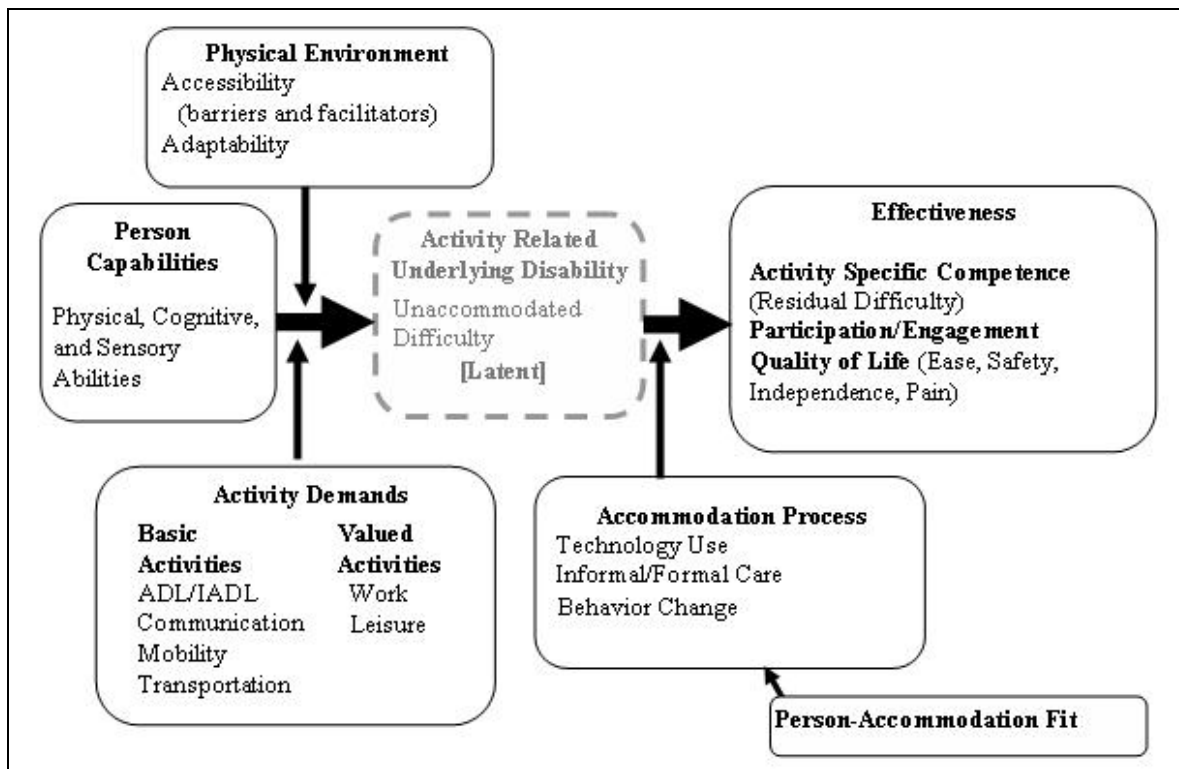
We have included in both instruments a brief set of instructions to assist in interviewer training. These recommendations are intended to supplement thorough interviewer training on the survey into which these items are embedded.

III. INSTRUMENT DEVELOPMENT PROCESS

The instrument development process involved five steps: development of a conceptual framework; review of existing measures; input from policy makers, survey designers, and an expert panel; cognitive testing with individuals who used assistive devices; and pilot testing with a sample of 360 people ages 50 and over.

Development of Conceptual Framework

To guide the instrument development, we constructed a synthesized framework that links together concepts of disability with the environment and assistive technology (see Figure 1). The framework draws on concepts from two well-established models of disability (the Institute on Medicine’s disablement process (Pope and Tarlov, 1991) and the World Health Organization’s International Classification of Functioning, Disability and Health (ICF)), but makes explicit the role of the physical environment and assistive technology use.²



² The main pathway of the proposed conceptual framework resembles the Institute of Medicine’s concepts of functional limitations and disability. From the ICF’s model of interrelationships we adopt a definition of effectiveness that encompasses both activity-specific competence and also a broader set of outcomes measured at the level of the person (e.g., participation and quality of life.)

In the measurement of the individual's capacity to perform everyday tasks, we first distinguish between "person capabilities" and underlying or "unaccommodated" disability. Capability is a measure of the movements or actions an individual can perform independent of their environment, and underlying disability represents the difficulty that would be experienced in the specific environments and for the activities that they live with everyday, if the person did not make any accommodations. We depict underlying disability as a latent construct, as it is often a hypothetical condition (e.g., *if you did not use help or assistive devices, how much difficulty would you have?*).

We also distinguish between underlying disability and the abilities of the individual once they make use of one or more types of accommodations. That is, assistive technology, personal care, and behavioral changes can reduce the gap between personal capabilities and the demands of the physical and social environment. Effectiveness can be measured in terms of activity-specific competence (residual/accommodated disability); participation in society and social groups; and measures of quality of life.

In the framework, the main pathway is influenced by:

- **Physical Environment.** The accessibility and adaptability of the physical environment are key factors that influence (along with the demands of a particular activity) whether physical, cognitive, and sensory abilities result in intrinsic disability. In the proposed module we measure the home environment and distinguish environmental features that exist a priori from those features and technologies that are put into place as accommodations.
- **Activity Demands.** The framework recognizes that in addition to basic activities (e.g., self-care activities, communication, mobility) there exist valued activities that may vary from individual to individual. The demands of these activities may vary greatly. In the proposed module we emphasize technologies for basic activities including inside and outside mobility, transferring, bathing, toileting, banking, preparing meals, shopping, managing money, communication, and transportation.
- **Accommodation Process.** The accommodation process influences whether an underlying disability affects the competence with which an activity is carried out. We envision technology not as an extension of the environment but instead as an extension of an individual's capacity (Agree, 1999). The use of assistive technology is one of several accommodations that an individual can adopt to meet the gap between underlying physical capabilities and the performance of an activity in a specific environment. In the proposed module we measure the use of fixed and portable technologies and the intensity of that use.

Review of Existing Measures

To identify existing measures of the concepts identified in Figure 1, we reviewed existing national surveys, clinical tools, and several additional instruments designed to measure quality of life. Based on a review of existing questions on 13 national surveys,³ we identified several important gaps in content. Here we summarize findings with respect to measures of the environment, assistive technology use, and effectiveness of technology.

- **Environment.** Relatively few questions exist on national surveys to measure the environment; those that do focus on the home and do not explicitly distinguish questions about the existence of environmental features, use of (modified) features, and subjective assessment of difficulty with those features. We also examined a variety of environmental assessment tools. We found that environmental assessment tools are often long checklists used in person by trained professionals⁴ and thus have only limited translatability to national surveys.
- **Assistive Technology Use.** There is little consistency across surveys with respect to terms used to identify assistive technology. Terms currently in use include “aids,” “special equipment,” “adaptive devices,” and “medical devices or supplies” (Cornman, Freedman, and Agree, 2005). Many of the existing instruments condition questions on the use of assistive technology on the identification of a problem or difficulty with a specific task. Others use a predetermined list of typically medical devices. There is variation in the use of a time frame but few surveys evaluate the amount (or “intensity”) of use.
- **Effectiveness of Technology.** Only a few questions have been used in national surveys to measure the effectiveness of technology. The few items that focus on effectiveness are embedded in questions about ADLs and sensory tasks and refer to the level of difficulty residual to help and/or equipment use. Virtually no items focus on the effect of technologies in facilitating participation or in enhancing quality of life. We also reviewed a number of quality of life

³ Surveys reviewed included the NHIS (2002), the Disability Supplement to the NHIS (1994/95), the National Health and Nutrition Examination Survey (NHANES) (1998), the National Long Term Care Survey (NLTC) (1999), the Medical Expenditure Panel Survey (MEPS) (1997, 2001), the Medicare Current Beneficiary Survey (MCBS) (2000), the Health and Retirement Survey (2002), the Self Care and Aging Survey (1994), the National Home and Hospice Care Survey (2000), the AT/IT Survey (2001), the Women’s Health and Aging Survey I (1995-97), the American Housing Survey (AHS) (1995), the Census (2000), the Survey of Income and Program Participation (2001), and the Panel Survey of Income Dynamics (2001).

⁴ Instruments we reviewed included QUEST (Demers et al., 1996), Craig Hospital Inventory of Environmental Factors (CHIEF) (Whiteneck, 2004), MPT (Scherer and Cushman, 2001), OT Fact, Enviro-FIM (Steinfeld & Danforth, 1997), Mann’s Consumer Assessment Survey (Mann et al., 1993, 1995); the Housing Enabler (Iwarrson, 1999), Built Environment Site Survey Checklist (Weich, 2001), and the housing audit tools from the REKI project (Lansley, 2005).

instruments.⁵ However, with the exception of PIADs (psychosocial impact of assistive devices), instruments measuring quality of life instruments did not explicitly relate to technology.

Input from Policy Makers, Survey Designers, and Expert Panel

To begin the process, the project team met with policy makers, survey designers, and an expert panel to gather input into key areas for question development.

In January 2003, the project team held a meeting at the Department of Health and Human Services (HHS) Office of the Assistant Secretary for Planning and Evaluation (ASPE) with representatives from various federal agencies to discuss policy and program issues related to disability, assistive technology, and the environment.⁶ There was consensus that agencies would like to have more information in four principal areas: (1) the effectiveness of programs in making potential users aware of available assistive devices and services; (2) the effectiveness of programs in meeting the needs of individuals with disabilities, with a broader definition of need and effectiveness than is currently employed; (3) the underlying demand for assistive devices and services or number of potential users; and (4) the extent to which assistive devices and the environment are enabling or disabling people with disabilities to fully participate in life.

In January and February 2003, the project team spoke with contacts from nine national survey efforts.⁷ The purpose of these conversations was to understand the survey efforts' preferences for collecting information on the proposed topics. Taken together, these contacts suggested that topics related to use, effectiveness and the environment were of interest; that the shorter the modules (less than ten minutes; preferably five) the better chance they had of being adopted; and that it would be helpful if they were designed in a flexible way so that the surveys could pick and choose items.

In February 2003, we asked Technical Advisory Group (TAG) members to rank salient concepts embedded in many of the existing national survey questions. Specifically we asked TAG members to rank concepts related to the use of assistive technology, the acquisition process, the effectiveness of assistive technology and the environment. The ranking process provided some guidance on the priorities for measurement in a pilot study with limited resources. Of all priorities, measuring the use of assistive technology and the home environment were considered critical, and

⁵ Quality of life instruments we reviewed included PIADS (Day et al., 2002), Ryff's measures of well-being (Ryff, 1995); Nuegarten's life satisfaction scale (1961); Lawton's PGC Morale scale (Lawton, 1972, 1975); and several measures of health-related quality of life.

⁶ Agencies participating in the meeting included the Centers for Medicare and Medicaid Services, HHS, Agency for Health Care Research and Quality, the Department of Housing and Urban Development, the Social Security Administration, the National Institute on Disability and Rehabilitation Research, and the National Center for Health Statistics (NCHS).

⁷ We spoke with contacts from the Health and Retirement Study; MEPS; MCBS; NLTC; Study of Midlife in the US; Wisconsin Longitudinal Study; AHS; NHIS; and NHANES.

measurement of the acquisition of technology and its effectiveness were rated by TAG members as a lower priority.

Based on this input and a review of existing instruments and tools, we drafted a 30-minute telephone instrument focused on three primary areas:

- objective assessments of the physical environment, specifically the home, which is most important for performance of ADLs;
- the use of assistive technology as a part of the accommodation process; and
- the impact of assistive technology on the amount of activity-specific competence, participation, and perceived quality of life.

Cognitive Testing

Cognitive testing of the instrument took place during July and August 2003 at the Questionnaire Design Research Laboratory (QDRL) at NCHS. Cognitive testing was conducted in three rounds, with revisions made to the instrument after each round. Participants were recruited through newspaper advertisements, flyers, and word of mouth. A total of 28 participants were tested (Round 1, n=8; Round 2, n=8; Round 3, n=12). Subjects ranged in age from 28 to 86 years (mean=62 years). All participants reported using one or more assistive technology devices, the most commonly reported being canes (n=10, 36%), walkers (n=10, 36%) and wheelchairs (n=7, 25%). The sample included a mix of genders and ethnic backgrounds.⁸ Most of the interviews were conducted by telephone in a closed office at the QDRL with a closed-circuit television connected to an observation room. Some of the interviews were conducted in the participant's homes. The interviews took approximately 90 minutes and all were videotaped. Participants received \$50 for participating.

After each round of interviewing, the project team viewed the tapes and the QDRL provided feedback regarding the effectiveness of the questions in eliciting the appropriate responses. Based on this feedback, the project team refined the instrument for the next round of interviews.

Several important lessons emerged from the cognitive testing (Wilson et al., 2004) including:

- ***Need for a reference time period for collecting information about the use of devices.*** The cognitive testing suggested that lack of a reference period, or use of a "typical month" as reference, led participants to describe the many different ways they have accommodated and to mention items that they had owned years prior. This problem was resolved in the third round of testing with the addition of "the last 30-days" as the reference period to questions about use. No recall problems were noted with this relatively recent time frame.

⁸ Seventeen of the 28 participants were female (61%); 22 (79%) were White, five participants were Black (18%), and one participant was American Indian (3%).

- ***Need to assess frequency of use in relation to specific activities.*** The cognitive testing demonstrated the difficulty in providing response options that capture frequency of use in relation to specific activities. Use of “all the time” caused confusion, particularly for questions about use of devices in the shower (e.g., did the individual use the grab bar for the entire time he/she was in the shower? or for at some point during each shower?) For the pilot test, the question was constructed as: “When you (name activity), how often do you use (device)? And the response set changed to “Every time, most times, sometimes, rarely, or never.”
- ***Superior performance of uni-polar vs. bi-polar scales to assess effectiveness.*** The cognitive testing suggested that the use of bi-polar five-point scales to assess effectiveness of assistive technology lead to inadequate responses. This problem was resolved in the third round of testing when the items were simplified to a positive uni-polar response set (no more, a little more, a lot more) assessing the extent to which the devices improved various dimensions of quality of life.
- ***Insight into improving terminology throughout the survey.*** The cognitive testing allowed the project team to fine tune the use of positive, everyday language that could be readily understood by respondents, whether or not they had prior experience with disability and associated terminology. Instead of using the terms “assistive technology” or “special equipment,” for example, the instrument refers to “items/features to make your daily activities easier, safer, or so you can do them on your own.” This language seemed readily understandable by participants. Moreover, many of these concepts (ease of use, safety, independence) were explicitly mentioned by participants in a series of open-ended items about the importance of technology to their lives. For the pilot test, words whose meanings were unclear or difficult to understand were eliminated from the questionnaire and a list of simple definitions was crafted for the CATI instrument.

There also were several sections that were eliminated after cognitive testing and prior to the pilot. For example, we cognitively tested questions about whether training was received, abandonment of devices, and transportation services. We concluded that these areas of inquiry, while important, deserve further qualitative work before useful questions can be constructed.

Pilot Testing and Feedback

Upon completion of the cognitive testing, we finalized a 25-minute instrument for pilot testing (see Part II of this report for the complete instrument). The pilot instrument consisted of nine sections: global items, neighborhoods and transportation, the home environment and modifications, use of technology for mobility and daily activities, cost of

technology, effectiveness of technology, use of information/communication technology, functional limitations and disability, and demographic items.

NCHS oversaw the implementation of the pilot test. In the spring of 2004 NCHS submitted materials for the pilot test to the Office of Management and Budget (OMB) and Ethics Review Board (ERB). OMB approval was received in July 2004 and final ERB approval received in the fall of 2004.

NCHS and ASPE then contracted with Westat, a social science research firm in Rockville, Maryland, to conduct the pilot testing. Between November 2004 and February 2005, Westat converted the instrument to CATI, trained interviewers, and conducted fieldwork, which included a final total of 360 interviews with a racially-diverse sample of adults ages 50 or older living in the community. The national sample, drawn from a marketing list, over-sampled individuals in older age groups: 50-64 (n=124); 65-79 (n=124); and 80+ (n=112). Individuals ages 50-64 living in households with an individual reporting a disability were also over-sampled (n=78). The sample includes individuals living in assisted living facilities (n=21), African Americans (n=50), and individuals living in rural areas (n=81). No refusal conversion was attempted; the response rate (completed interviews/age eligibles) was 20% and the cooperation rate (completed interviews/(completed interviews+refusals)) was 39%. The interview length varied from ten minutes to one hour, with the average interview lasting 22 minutes.

Several approaches were used to gather information to evaluate the questionnaire. Interviewer comments entered into CATI during data collection were reviewed, along with rates of do not know/refusals. Based on interviewer comments a minority of questions (n=29) needed further clarification. In the final instrument we dropped 16 of these potentially problematic items and clarified another ten through changes in wording, clarification of definitions, or training suggestions. Westat reported that the percentage of don't know and refused responses was very low in this study (averaging 1.18% and 0.34%, respectively). In the final instrument we eliminated all items (n=11) with a significantly higher than average rate of don't know or refused.

Project team members also participated in an interviewer debriefing to assess problem areas in the questionnaire. Interviewer feedback from the debriefing was positive overall. They reported that the interview was easy to administer and worked well for respondents of all ages. The few issues they raised were addressed in the final interview, for example, by removing purposive duplication between global and more detailed items and by introducing additional skip patterns for individuals who had not gone outside in the last 30 days.

Westat also tape recorded 150 interviews and coded each item in each interview for key respondent and interviewer behaviors (e.g., reading questions other than verbatim, probing and providing definitions, providing qualified or inadequate answers, requesting clarification or definition, interrupting the question). Behavior coding is a standardized method of identifying potential problems with the validity and reliability of survey items (Fowler & Cannell, 1996). Behavior coding of the pilot study suggested

few problematic items, with a high percentage of responses being coded as adequate and a low percentage involving wording changes by interviewers, requests by respondents for clarification or definitions, and interruption of questions (Smith and Schiffron, 2005).⁹ Although probing was not uncommon, interviewers reported that probing did not appear to be higher in this study than in other studies of similar populations.

Based on each of these sources of information, Westat made a set of recommendations for questionnaire revision (Schiffrin et al., 2005). All recommendations made by Westat were evaluated by the project team. Nearly all suggestions were addressed in the final instrument either through elimination of potentially problematic items, modification of question language or definition, or the introduction of additional interviewer training material.

Finalization of Recommended Modules

A final consideration in finalizing the recommended modules was instrument length. We aimed to cut administration time from approximately 22 minutes to less than ten minutes on average.

We first eliminated all sections of the questionnaire that are routinely found in national surveys and were included solely for the purpose of evaluating the pilot data (e.g., demographic items, assisted living services, functional limitations, help with ADLs and IADLs). Next, we evaluated the quality of the global items, the effectiveness and residual difficulty items, and the open-ended questions (Freedman and Agree, 2005). Based on these analyses, we recommend the following:

- **Limit Use of Global Items.** The pilot study allowed us to investigate whether items that asked simultaneously about multiple devices or home features identified users with the same accuracy as the full set of questions about specific items. We found that these global items did not do so consistently across types of devices. A global item for mobility related technology ("In the last 30 days have you used a cane, walker, wheelchair, or scooter?") had high sensitivity and specificity compared to individual items (0.94 and 0.99, respectively). We therefore recommended adding this item as a screener to more detailed questions. This approach saves time and replaces the more common approach in existing surveys of imposing a screen based on reports of difficulty. However, global items designed to assess the presence of features in the home (e.g., a stair glide, chair lift, or support rails in the hallway; a bath or shower seat, raised toilet seat, or grab bars in the bathroom) had much lower sensitivity (that is are likely to miss people who would be identified as having a feature through more detailed questions) and were therefore eliminated.

⁹ Detailed behavior codes are provided for each item in the recommended modules in Part II of this report, available from the corresponding author upon request.

- **Omit Open-Ended Questions.** Although intended as “catch-all” items, open-ended questions did not yield additional useful information on assistive devices or environmental modifications. In every section where items or features were being queried, we asked respondents to name additional items that they used to make tasks easier, safer, or to do them on their own. Few responses were obtained in these open-ended questions and the items mentioned often did not fit within a standard definition of assistive technology. Therefore we dropped all open-ended items from the final questionnaire.
- **Retain a Subset of Effectiveness Items.** Of a total of seven original items asked in this section, only three were retained for the final instrument. Unlike the four items that were eliminated, the remaining three yielded adequate variability and low levels of “does not apply.” Moreover, preliminary structural equation models suggest that these three items scale well and correlate with the intensity of assistive technology use and the extent of functional limitations, but not with the amount of personal help. Pilot data analyses suggest that these items work well (i.e., well distributed with few answering don’t know, refused, or does not apply) for a broad range of assistive devices and environmental modifications. We did, however, narrow the set of assistive devices to which these questions refer (eliminating commonly used items such as glasses and handheld showerheads) so that a smaller number of respondents would be routed through these questions.
- **Retain Individualized Residual Difficulty Items.** The residual difficulty items we tested (Using your ____, how much difficulty do you have ____ by yourself?) allowed respondents to volunteer that they never do the activity without help. Those who responded this way are then asked “Using your ____, could you ____ by yourself?” We found there were very few problem behaviors with the lead-in questions. In fact, these items required fewer clarifications and less probing than standard functional limitation questions that we included and they correlated as well as standard questions about help with ADLs (Cronbach’s $\alpha=.8$). However, almost all respondents answering that they “never do the activity without help” responded in a follow-up question that they “could do” the activity. We therefore eliminated the follow-up items and instead recommend that analysts code the few who never do the activity without help as having a lot of difficulty.

Finally, we eliminated sections of the questionnaire that we thought needed further testing. This included several items on the neighborhood environment (e.g., the presence of curb cuts and sidewalks, the steepness of the grade, and the quality of the sidewalks); items specific to wheelchair use (e.g., the presence of widened hallways, whether their bathroom had enough room to turn in a wheelchair, and whether a wheelchair could fit in the car they drive in most often); items to identify mobility devices that were owned but not used and reasons for abandonment; the importance of home features; and the effectiveness of computer and phone adaptations. These areas are ripe for further cognitive and pilot testing.

The final recommended modules are estimated to take 8-10 minutes to administer and are described more fully in Chapter 2. A briefer, 2-3 minute module was also created. Detailed pilot data describing the frequencies and performance of the recommended items is provided in Part II of this report.

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**Survey Modules to Measure
Assistive Technology and the Home Environment**

Recommended 8-10 Minute Modules

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Instructions to Train Interviewers

Read only response options in lower case. If the responses to a question are typed in upper case letters, they should not be read to the respondent.

Offer the interviewer the option of not reading repetitive response choices. Several of the modules involve sequences of questions with repetitive response choices. We recommend offering interviewers the option of not reading response options once respondent have demonstrated learning the response pattern, generally not before the third time.

Provide definition if needed. Definitions for items that may be unfamiliar to some respondents are provided. These are intended to be read only as needed. Interviewers should be trained to read definitions only if the respondent asks for clarification or definition of a term or if the respondent conveys confusion about the meaning of the question.

Read introductory phrases in parentheses as needed for clarity. In several cases, questions in a series use a similar introductory phrase. When a respondent is routed into a detailed follow-up sequence the introduction should not appear in parentheses and should be read. Where the questions are moving rapidly in a sequence (for example, where the respondent is saying “no” to all device use questions and skips past the detailed use items) the introductory phrase should appear parenthetically and may be included as needed for clarity.

Instructions for new construction and home improvement (HE module). When respondents have made improvements (e.g., upgraded a grab bar) or renovations to an existing home (e.g., remodeled a bathroom), they should code the upgraded features as “added (or upgraded).” If respondents have difficulty separating out the cost of these features from the rest of the renovation/building costs, interviewers should repeat the list of items that were added and ask them to focus on the cost of only those features. If the respondent is unable to separate the cost of the feature from the larger project then mark ‘don’t know’.

Note on Conventions Used in Instrument

CATI instructions appear in white text boxes. Notes about question interdependencies across sections appear in yellow text boxes. Definitions appear in grey text boxes. Variable names used in the pilot study appear in red.

HOME ENVIRONMENT MODULE

We are interested in features of your home and items you have to make your daily activities easier, safer, or so you can do them on your own. First I have some questions about your home.

HE-1. Is your home part of a building that has two or more apartments or units with a common or shared entrance?

BLDGUNIT

1. YES
2. NO
- 7. REFUSED
- 8. DON'T KNOW

NOTE TO USER

HE-1 is used to fill and skip items in the Home Environment Module (fills HE-2 and skips HE-3 through HE-8) and to fill items in the Mobility and Other Devices Module (MO-2.1b, MO-2.2b, MO-2.3b, MO-2.4b, MO-2.1c, MO-2.2c, MO-2.3c, and MO-2.4c).

HE-2 CATI FILL INSTRUCTIONS

IF (HE-1= 2,-7,-8) THEN DISPLAY “home” in HE-2
ELSE IF (HE-1=1) THEN DISPLAY “building” in HE-2

HE-2. In the last 30 days, how often have you left your {home/building} to go outside? Was it ...

LEFTBLDG

1. every day or almost every day,
2. several times a week,
3. once a week,
4. less than once a week, or
5. never
- 7. REFUSED
- 8. DON'T KNOW

NOTE TO USER

HE-2 is used to skip items in the Home Environment Module (HE-5.3a, HE-10.3b), the Mobility and Other Devices Module (MO-2.1c, MO-2.2c, MO-2.3c, MO-2.4c, MO-2.5, MO-4.1, MO-4.2, MO-4.2a, MO-4.2b, and MO-4.3), and the Residual Difficulty Module (RD-6.4a)

CATI SKIP INSTRUCTIONS

IF (HE-1= 2, -7, or -8) GO TO HE-9

HE-3. Thinking about the entrance you use most often, do you have to use stairs or step up or down to get into your building from outside?

BLDGSTEP

1. YES
2. NO
- 7. REFUSED
- 8. DON'T KNOW

HE-4. Is this a common or shared entrance, or is it an entrance directly into your home?

BLDGENTR

1. COMMON OR SHARED ENTRANCE [GO TO HE-5]
 2. ENTRANCE DIRECTLY INTO HOME
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO HE-10]

HE-5. Does this entrance have ...

<p>HE-5.1 working lights? BLDGLITE 1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>	
<p>HE-5.2 handrails leading to the entrance? BLDGRAIL 1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>	
<p>HE-5.3 a ramp? BLDGRAMP 1. YES } [GO TO HE-5.3a] 2. NO } -7. REFUSED } [GO TO HE-5.4] -8. DON'T KNOW }</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>CATI SKIP INSTRUCTIONS IF HE-2=5 then go to HE-5.4</p> </div>	<p>HE-5.3a In the last 30 days when you left your home, did you use the ramp ... BLDRMP30 1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T LEAVE HOME -7. REFUSED -8. DON'T KNOW [READ INTRO "Does this entrance have ..." AND FILL IN BLANK WITH ITEM IN HE-5.4]</p>
<p>HE-5.4 automatic doors? BLDGDOOR 1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>	

HE-6. Is your building more than one story?

BLDGLVL

- 1. YES [GO TO HE-7]
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW } [GO TO HE-11]

HE-7. Is the building entrance that you use most often on the same floor as your home?

BLDGFLOR

- 1. YES [GO TO HE-11]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO HE-8]

HE-8. Does your building have an elevator?

BLDGELEV

- 1. YES
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO HE-11]

HE-9. Thinking about the entrance you use most often, do you have to use stairs, or step up or down, to get into your home from outside?

HOMESTEP

- 1. YES
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW

HE-10. Does this entrance have ...

<p>HE-10.1 working lights? LITEHOME</p> <ul style="list-style-type: none"> 1. YES 2. NO -7. REFUSED -8. DON'T KNOW 		
<p>HE-10.2 handrails leading to the entrance? RAILHOME</p> <ul style="list-style-type: none"> 1. YES [GO TO HE-10.2 a] 2. NO -7. REFUSED -8. DON'T KNOW <p style="margin-left: 200px;">} [GO TO HE-10.3]</p>	<p>HE-10.2a Were these rails there when you moved in or were they added? RAILADD</p> <ul style="list-style-type: none"> 1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW <p>[READ INTRO "Does this entrance have ..." AND FILL IN BLANK WITH ITEM IN HE-10.3]</p>	

<p>HE-10.3 a ramp? RAMPHOME 1. YES [GO TO HE-10.3 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p style="text-align: right;">} [GO TO HE-11]</p>	<p>HE-10.3a Was the ramp there when you moved in or was it added? RAMPADD 1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>CATI SKIP INSTRUCTIONS</p> <p>IF HE-2=5 then go to HE-11</p> </div>	<p>HE-10.3b In the last 30 days when you left your home, did you use the ramp ... RAMP30 1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T LEAVE HOME -7. REFUSED -8. DON'T KNOW</p>
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Now, I'd like to ask you some questions about the inside of your home.

HE-11. Is your living space on more than one floor?

HOMELVL

- | | | |
|----------------|---------------|--|
| 1. YES | [GO TO HE-12] | } READ INTRO "Whether or not you use them, does your home have..." AND GO TO HE-12.5] |
| 2. NO | | |
| -7. REFUSED | | |
| -8. DON'T KNOW | | |

HE-12. Whether or not you use it, does your home have...

<p>HE-12.1 a bedroom, kitchen, and bath on the same floor? FLORHOME 1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>		
<p>HE-12.2 [Whether or not you use it, does your home have...] an elevator ? ELEVHOME 1. YES [GO TO HE-12.2 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p style="text-align: right;">} [GO TO HE-12.3]</p>	<p>HE-12.2a Was the elevator there when you moved in or was it added? ELEVADD 1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.2b In the last 30 days when you went upstairs or downstairs, did you use the elevator ... ELEV30 1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T GO UP OR DOWN STAIRS -7. REFUSED -8. DON'T KNOW [READ INTRO "Whether or not you use it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-12.3]</p>

<p>HE-12.3 [Whether or not you use it, does your home have...] a chair lift or stair glide?</p> <p>LIFTHOME</p> <p>1. YES [GO TO HE-12.3a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-12.4]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A chair lift or stair glide is a motorized chair that runs up and down a staircase. You ride on a seat and get on and off at the top and bottom of the stairs.</p> </div>	<p>HE-12.3a Was it there when you moved in or was it added?</p> <p>LIFTADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.3b In the last 30 days when you went upstairs or downstairs, did you use the chair lift or stair glide ...</p> <p>LIFT30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T GO UP OR DOWN STAIRS -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO "Whether or not you use it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-12.4]</p>
<p>HE-12.4 [Whether or not you use them, does your home have...] handrails in any of the staircases?</p> <p>1. YES [GO TO HE-12.4a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-12.5]</p>	<p>HE-12.4a Were these rails there when you moved in or were any of them added?</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.4b In the last 30 days when you went upstairs or downstairs, did you use the handrails...</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T GO UP OR DOWN STAIRS -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO "Whether or not you use it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-12.5]</p>
<p>HE-12.5 [Whether or not you use them, does your home have...] handrails in any of the hallways?</p> <p>RAILHOM</p> <p>1. YES [GO TO HE-12.5a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-12.6]</p>	<p>HE-12.5a Were these rails there when you moved in or were any of them added?</p> <p>RAILIADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.5b In the last 30 days, when you went down the hallway, did you use the handrails ...</p> <p>RAILI30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO "Whether or not you have used it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-12.6]</p>

<p>HE-12.6 [Whether or not you have used it, does your home have...] an emergency call or personal response system to help if you fall?</p> <p>EMERHOME</p> <p>1. YES (1) [GO TO HE-12.6a]</p> <p>2. NO (2) -7. REFUSED -8. DON'T KNOW } [GO TO HE-13]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): This is a system you use to call someone to come if you fall or need help. You can wear it around your neck or it can be attached to the wall.</p> </div>	<p>HE-12.6a Was this system there when you moved in or was it added?</p> <p>EMERADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.6b In the last 30 days, have you used this system to call for help?</p> <p>EMER30</p> <p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
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HE-13 Whether or not you use it, does your home have...

<p>HE-13.1 a stall shower separate from a tub?</p> <p>SHOWBATH</p> <p>1. YES [GO TO HE-13.1b]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-13.2]</p>		<p>HE-13.1b In the last 30 days, when you bathed or showered, did you use the stall shower ...</p> <p>SHOW30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>
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<p>HE-13.2 Whether or not you use them, does your home have any grab bars in the shower or tub area?</p> <p>BARBATH</p> <p>1. YES [GO TO HE-13.2a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p style="text-align: right;">} [GO TO HE-13.3]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A grab bar is designed to help you steady yourself. It may be attached to the wall or built in to the tub or shower. Do not include</p> </div>	<p>HE-13.2a Were these grab bars there when you moved in or were any of them added?</p> <p>BARADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-13.2b In the last 30 days, when you bathed or showered, did you use the grab bars ...</p> <p>BAR30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO “Whether or not you use it, does your home have...” AND FILL IN BLANK WITH ITEM IN HE-13.3]</p>
<p>HE-13.3 [Whether or not you use it, does your home have...] a seat for the shower or tub?</p> <p>SEATBATH</p> <p>1. YES [GO TO HE-13.3a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW</p> <p style="text-align: right;">} [GO TO HE -13.4]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): This includes a chair, bench, or stool that you put in the shower or tub, or a seat that is built in.</p> </div>	<p>HE-13.3a Was this seat there when you moved in or was it added?</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-13.3b In the last 30 days, when you bathed or showered, did you use the seat...</p> <p>SEAT30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO “Whether or not you use it, does your home have ...” AND FILL IN BLANK WITH ITEM IN HE-13.4]</p>
<p>HE-13.4 [Whether or not you use it, does your home have...] a handheld showerhead?</p> <p>EXTDBATH</p> <p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>		

<p>HE-14.1 [Whether or not you use them, does your home have...] grab bars around any of the toilets?</p> <p>TOILBAR</p> <p>1. YES [GO TO HE-14.1a]</p> <p>2. NO } [GO TO HE-14.2]</p> <p>-7. REFUSED }</p> <p>-8. DON'T KNOW }</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A grab bar is designed to help you steady yourself. It may be attached to the wall or part of a frame that goes over the toilet. Do not include towel racks.</p> </div>	<p>HE-14.1a Were these grab bars there when you moved in or were any of them added?</p> <p>TOILADD</p> <p>1. THERE WHEN MOVED IN</p> <p>2. ADDED (OR UPGRADED)</p> <p>-7. REFUSED</p> <p>-8. DON'T KNOW</p>	<p>HE-14.1b In the last 30 days, when you used the toilet, did you use the grab bars ...</p> <p>TOIL30</p> <p>1. every time</p> <p>2. most times</p> <p>3. sometimes</p> <p>4. rarely, or</p> <p>5. never?</p> <p>-7. REFUSED</p> <p>-8. DON'T KNOW</p> <p>[READ INTRO “Does your home have...” AND FILL IN BLANK WITH ITEM IN HE-14.2]</p>
<p>HE-14.2 [Does your home have...] a raised or modified toilet seat?</p> <p>MODSEAT</p> <p>1. YES [GO TO HE-14.2a]</p> <p>2. NO } [GO TO HE-15-INTRO]</p> <p>-7. REFUED }</p> <p>-8. DON'T KNOW }</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): This includes a seat that is up higher than usual, either because the toilet or seat is raised, or a chair that fits over the toilet. Do not include portable urinals, commodes,</p> </div>	<p>HE-14.2a Was the raised or modified seat there when you moved in or was it added?</p> <p>1. THERE WHEN MOVED IN</p> <p>2. ADDED (OR UPGRADED)</p> <p>-7. REFUSED</p> <p>-8. DON'T KNOW</p>	

CATI SKIP INSTRUCTIONS

IF (HE-10.2a = 2 OR HE-10.3a = 2 OR HE-12.2a = 2 OR
HE-12.3a = 2 OR HE-12.4a = 2 OR HE-12.5a = 2 OR HE-12.6a = 2 OR
HE-13.2a = 2 OR HE-13.3a = 2 OR HE-14.1a = 2 OR HE-14.2a = 2)
THEN GO TO HE-15-INTRO

ELSE GO TO MO-1

HE-15-INTRO. The next questions are about the following items that you told me were added: the...

HE-15-INTRO CATI FILL INSTRUCTIONS

- IF (HE-10.2a = 2) THEN display “handrail leading to the entrance”
- IF (HE-10.3a = 2) THEN display “ramp”
- IF (HE-12.2a = 2) THEN display “elevator”
- IF (HE-12.3a = 2) THEN display “chair lift or stair glide”
- IF (HE-12.4a = 2) THEN display “handrail in the staircase”
- IF (HE-12.5a = 2) THEN display “handrail in the hallway”
- IF (HE-12.6a = 2) THEN display “emergency call system”
- IF (HE-13.2a = 2) THEN display “grab bars in the shower or tub”
- IF (HE-13.3a = 2) THEN display “seat for the shower or tub”
- IF (HE-14.1a = 2) THEN display “grab bars around the toilet”
- IF (HE-14.2a = 2) THEN display “raised or modified toilet seat”

HE-15 and HE-19 CATI FILL INSTRUCTIONS

IF there is more than one fill, THEN display “these” in HE-15 and HE-19
ELSE display “this” in HE-15 and HE-19

HE-15. Did you or your family pay any of the cost of adding {this/these}?

FEATFAMI

- 1. YES [GO TO HE-16]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO HE-19]

HE-16. About how much did you and your family pay altogether? Was it ...

FEATCOST

- 1. more than \$500, [GO TO HE-17]
 - 2. less than \$500, or [GO TO HE-18]
 - 3. just about \$500 ?
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO HE-19]

HE-17. Was it ...

FEATTHOU

- 1. more than \$1000,
 - 2. less than \$1000, or
 - 3. just about \$1000?
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO HE-19]

HE-18. Was it ...

FEAT100

- 1. more than \$100,
- 2. less than \$100, or
- 3. just about \$100?
- 7. REFUSED
- 8. DON'T KNOW

HE-19. Did your health insurance or any other program pay any of the cost of adding {this/these}?

FEATINS

1. YES
2. NO
- 7. REFUSED
- 8. DON'T KNOW

MOBILITY AND OTHER DEVICES MODULE

The next questions are about getting around both outside and inside your home.

MO-1. In the last 30 days, have you used a cane, walker, wheelchair, or scooter, yes or no?

USECANE

1. YES [GO TO MO-2]
2. NO [GO TO MO-2.5]
- 7. REFUSED [GO TO MO-2]
- 8. DON'T KNOW [GO TO MO-2]

MO-2 CATI FILL INSTRUCTIONS

IF (HE-1=1) THEN display “**home or building**” in MO-2.1b, MO-2.2b, MO-2.3b, MO-2.4b and “**building**” in MO-2.1c, MO-2.2c, MO-2.3c, and MO-2.4c

ELSE IF (HE-1=2, -7, or -8) THEN display “**home**” in MO-2.1b, MO-2.2b, MO-2.3b, MO-2.4b, MO-2.1c, MO-2.2c, MO-2.3c, and MO-2.4c

IF (MO-1=1) THEN display “**Okay, I'd like to ask you a few more questions about these items.**”

CATI SKIP INSTRUCTIONS

IF (HE-2= 5) THEN do not ask MO-2.1c, MO-2.2c, MO-2.3c, MO-2.4c, and MO-2.5

MO-2. In the last 30 days, did you use ...

<p>MO-2.1 a cane? CANEUSE</p> <p>1. YES [GO TO MO-2.1 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.2]</p> <div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0;"> <p>DEFINITION (IF NEEDED): Include here straight canes, walking sticks, and multi-pronged canes. Do not include white canes to help you walk if you are blind, since we'll ask about vision aids like that later.</p> </div>	<p>MO-2.1a In the last 30 days, when you got out of a bed or chair, how often did you use your cane to help? Would you say ... CANEBED</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.1b In the last 30 days, when you walked around <u>inside</u> your {home/ home or building}, how often did you use your cane? CANEWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.1c In the last 30 days, when you <u>left</u> your {home/ building} how often did you use your cane? CANEOUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "In the last 30 days, did you use ..." AND FILL IN BLANK WITH ITEM IN MO-2.2]</p>
<p>MO-2.2 [In the last 30 days, did you use] a walker? WALKUSE</p> <p>1. YES [GO TO MO-2.2 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.3]</p>	<p>MO-2.2a In the last 30 days, when you got out of a bed or chair, how often did you use your walker to help? Would you say ... WALKBED</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.2b In the last 30 days, when you walked around <u>inside</u> your {home/ home or building}, how often did you use your walker? WALKWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.2c In the last 30 days, when you <u>left</u> your {home/ building} how often did you use your walker? WALKOUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "In the last 30 days, did you use ..." AND FILL IN BLANK WITH ITEM IN MO-2.3]</p>

<p>MO-2.3 [In the last 30 days, did you use] a wheelchair? WHELUSE</p> <p>1. YES [GO TO MO-2.3 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.4]</p>	<p>MO-2.3a In the last 30 days, when you got out of a bed or chair, how often did you use your wheelchair to help? Would you say ... WHELBED</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.3b In the last 30 days, when you went around <u>inside</u> your {home/ home or building}, how often did you use your wheelchair? WHELWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.3c In the last 30 days, when you <u>left</u> your {home/ building}, how often did you use your wheelchair? WHELOUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "In the last 30 days, did you use ..." AND FILL IN BLANK WITH ITEM IN MO-2.4]</p>
<p>MO-2.4 [In the last 30 days, did you use] a scooter? SCTRUSE</p> <p>1. YES [GO TO MO-2.4a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.5]</p>	<p>MO-2.4a Do you own or rent this scooter?</p> <p>1. YES [GO TO MO-2.4b] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.5]</p>	<p>MO-2.4b In the last 30 days, when you went around <u>inside</u> your {home/ home or building}, how often did you use your scooter? Would you say ... SCTRWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.4c In the last 30 days, when you <u>left</u> your {home/ building}, how often did you use your scooter? SCTRROUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>
<p>MO-2.5 [In the last 30 days, have you used] a motorized cart or electric scooter at the store? MOTGROC</p> <p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>			

MO-3. The next questions are about some other items that you may use to make your daily activities easier, safer, or so that you can do them on your own. In the last 30 days, have you used ...

<p>MO-3.1 a hearing aid or other hearing device? HEARAIID</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>MO-3.2 [In the last 30 days, have you used ...] glasses or contacts? GLASSES</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>MO-3.3 [In the last 30 days, have you used ...] vision aids other than glasses? VISION</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div data-bbox="898 499 1406 688" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): Vision aids include things like a magnifying glass or a white cane to used by people with visual impairments to help them walk.</p> </div>
<p>MO-3.4 [In the last 30 days, have you used ...] a reacher or grabber? REACHER</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div data-bbox="898 793 1417 940" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A reacher or grabber is used to help reach or grasp objects.</p> </div>
<p>MO-3.5 [In the last 30 days, have you used ...] a special bed or chair to sleep in? SPECBED</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>MO-3.6 [In the last 30 days, have you used ...] a trapeze, lift, or sling to get in and out of bed? TRAPUSE</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div data-bbox="829 1213 1507 1430" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A trapeze is a bar that hangs over the head of the bed that allows a person to pull up from a resting position. A lift is a machine that transfers and a sling is material that supports a person being lifted out of bed.</p> </div>
<p>MO-3.7 [In the last 30 days, have you used ...] a raising seat or lift chair to help you in and out of chairs? LIFTUSE</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div data-bbox="898 1503 1458 1719" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): Raising seats and lift chairs lift up and tilt forward, so a person can stand more easily and lower themselves into a seated position</p> </div>
<p>MO-3.8 [In the last 30 days, have you used ...] a portable urinal or commode, bedpan, or disposable pads? PORTCOMM</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>

<p>MO-3.9 [In the last 30 days, have you used ...] a modified washer or dryer? MODWASH</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p>DEFINITION (IF NEEDED): This is a washer or dryer that has been changed to make it easier to load clothes or turn on and off.</p> </div>
<p>MO-3.10 [In the last 30 days, have you used ...] adapted utensils or adapted appliances for cooking? MODCOOK</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p>DEFINITION (IF NEEDED): Adapted utensils include things like easy-to-grip silverware, knives that rock, and plates with high sides. Adapted appliances include things like can openers that can be used with one hand and easy to grip pots and pans.</p> </div>

The next questions are about how you get to and from places.

CATI SKIP INSTRUCTIONS
IF (HE-2= 5) THEN GO TO MO-5-INTRO

MO-4.1 In the last 30 days, did you drive yourself places in a car, truck, or van?

DRIVECAR

- | | |
|----------------|-----------------|
| 1. YES | [GO TO MO 4.2a] |
| 2. NO | |
| -7. REFUSED | } |
| -8. DON'T KNOW | |
| | [GO TO MO-4.3] |

MO-4.2 Does the vehicle that you drove most often have ...

<p>MO-4.2a a ramp or lift? CARRAMP</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>MO-4.2b [Does the vehicle that you drove most often have ...] hand controls, pedal extenders, or a steering adaptation? CARCONTR</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>

MO-4.3 In the last 30 days, did you use a paratransit service or transportation for people with disabilities?

SERVUSE

- 1. YES
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW

DEFINITION (IF NEEDED):

Paratransit is a flexible form of transportation, especially for people with disabilities or senior citizens.

CATI SKIP INSTRUCTIONS

IF (MO-2.1 =1 OR MO-2.2 =1 OR MO-2.3 =1 OR MO-2.4 =1
OR MO-3.1 =1 OR MO-3.3 =1 OR MO-3.4=1 OR MO-3.5 =1
OR MO-3.6 =1 OR MO-3.7 =1 OR MO-3.8 =1 OR MO-3.9 =1
OR MO-3.10=1 OR MO-4.2a =1 OR MO-4.2b =1) THEN GO TO MO-5

ELSE GO TO EF-1.

MO-5-INTRO. You told me that in the last 30 days you have used a:

MO-5-INTRO CATI FILL INSTRUCTIONS

IF (MO-2.1 =1) THEN display '**cane**'
IF (MO-2.2 =1) THEN display '**walker**'
IF (MO-2.3 =1) THEN display '**wheelchair**'
IF (MO-2.4 =1) AND (MO-2.4a=1) THEN display '**scooter**'

IF (MO-3.1 =1) THEN display '**hearing aid**'
IF (MO-3.3 =1) THEN display '**vision aid other than glasses**'
IF (MO-3.4 =1) THEN display '**reacher or grabber**'
IF (MO-3.5 =1) THEN display '**special bed or chair**'
IF (MO-3.6 =1) THEN display '**trapeze, lift, or sling to get in and out of bed**'
IF (MO-3.7 =1) THEN display '**raising seat or lift chair to get in and out of chairs**'
IF (MO-3.8 =1) THEN display '**portable urinal, commode, bedpan, or disposable pads**'
IF (MO-3.9 =1) THEN display '**modified washer or dryer**'
IF (MO-3.10 =1) THEN display '**adapted utensils or adapted appliances for cooking**'

IF (MO-4.2a=1 OR MO-4.2b =1) THEN display '**adapted car**'

MO-5 and MO-9 CATI FILL INSTRUCTIONS

IF more than one fill, THEN display '**these items**' in MO-5 and MO-9
ELSE display "**this item**" in MO-5 and MO-1

MO-5. Did you or your family pay any of the cost to buy or rent {this item/these items}?

FAMPAY

- 1. YES [GO TO MO-6]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO MO-9]

MO-6. About how much did you and your family pay altogether? Was it ...

FAM500

- 1. **more than \$250,** [GO TO MO-7]
 - 2. **less than \$250, or** [GO TO MO-8]
 - 3. **just about \$250?**
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO MO-9]

MO-7. Was it ...

FAM1000

- 1. more than \$500,
- 2. less than \$500, or
- 3. just about \$500?
- 7. REFUSED
- 8. DON'T KNOW



[GO TO MO-9]

MO-8. Was it ...

FAM100

- 1. more than \$100,
- 2. less than \$100, or
- 3. just about \$100?
- 7. REFUSED
- 8. DON'T KNOW

MO-9. Did your health insurance or any other program pay any of the cost of {this item/these items}?

INSPAY

- 1. YES
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW

EFFECTIVENESS/ PARTICIPATION MODULE

NOTE TO USER

The Effectiveness/Participation Module (EF) requires items from the Home Environment (HE) and Mobility and Other Technologies (MO) Modules

CATI SKIP INSTRUCTIONS

IF (HE 10.3b =1,2,3 or 4) OR (HE-12.2b =1,2,3 or 4) OR (HE-12.3b =1,2,3, or 4) OR (HE-12.4b =1,2,3 or 4) OR (HE-12.5b =1,2,3,or 4) OR (HE-12.6 = 1) OR (HE-13.2b =1,2,3 or 4) OR (HE-13.3b =1,2,3 or 4) OR (HE-14.1b =1,2,3 or 4) OR (HE-14.2 = 1) OR (MO-2.1 =1) OR (MO-2.2 =1) OR (MO-2.3 =1) OR (MO-2.4 =1) OR (MO-2.5 =1) OR (MO-3.1 =1) OR (MO-3.3 =1) OR (MO-3.4 =1) OR (MO-3.5 =1) OR (MO-3.6 =1) OR (MO-3.7 =1) OR (MO-3.8 =1) OR (MO-3.9 =1) OR (MO-3.10 =1) OR (MO-4.2a =1) OR (MO-4.2b =1) THEN GO TO EF-INTRO

ELSE GO TO CO-1

EF-INTRO.
Now think about the following items that you have used in the last 30 days. The _____. The next questions are about how much using {this item/these items} has affected your life.

EF-INTRO CATI FILL INSTRUCTIONS

Fill blank with one or more phrases as follows:

IF (HE10.3b =1,2,3 or 4) THEN display “**ramp**”
IF (HE12.2b =1,2,3 or 4) THEN display “**elevator**”
IF (HE12.3b =1,2,3, or 4) THEN display “**chair lift or stair glide**”
IF (HE12.4b =1,2,3 or 4) THEN display “**handrails in the staircases**”
IF (HE12.5b =1,2,3, or 4) THEN display “**handrails in the hallway**”
IF (HE-12.6=1) THEN display “**emergency call system**”
IF (HE13.2b =1, 2, 3 or 4) THEN display “**grab bars in the shower or tub**”
IF (HE13.3b =1 2, 3 or 4) THEN display “**seat for the shower or tub**”
IF (HE14.1b =1, 2,3 or 4) THEN display “**grab bars around the toilet**”
IF (HE-14.2 =1) THEN display “**raised or modified toilet seat**”
IF (MO-2.1 =1) THEN display “**cane**”
IF (MO-2.2 =1) THEN display “**walker**”
IF (MO-2.3 =1) THEN display “**wheelchair**”
IF (MO-2.4=1) THEN display “**scooter**”
IF (MO-2.5 =1) THEN display “**electric cart**”
IF (MO-3.1 =1) THEN display “**hearing aid**”
IF (MO-3.3 =1) THEN display “**vision aids other than glasses**”
IF (MO-3.4 =1) THEN display “**reacher or grabber**”
IF (MO-3.5 =1) THEN display “**special bed or chair**”
IF (MO-3.6 =1) THEN display “**trapeze, lift, or sling to get in and out of bed**”
IF (MO-3.7 =1) THEN display “**raising seat or lift chair to get in and out of chairs**”
IF (MO-3.8 =1) THEN display “**portable urinal, commode, bedpan, or disposable pads**”
IF (MO-3.9 =1) THEN display “**modified washer or dryer**”
IF (MO-3.10 =1) THEN display “**adapted utensils or adapted appliances for cooking**”
IF (MO-4.2a =1) OR (MO-4.2b =1) THEN display “**adapted car**”

EF-INTRO, EF-1, EF-2, EF-3 CATI FILL INSTRUCTIONS

IF more than one fill, THEN display “**these items**” in EF-INTRO, EF-1, EF-2, and EF-3
ELSE display “**this item**” in EF-INTRO, EF-1, EF-2, and EF-3

EF-1. Because you use {this item/these items}, how much safer do you feel when you do your daily activities? Would you say...

MORESAFE

1. no more,
2. a little more, or
3. a lot more
4. DOES NOT APPLY
- 7. REFUSED
- 8. DON'T KNOW

EF-2. Because you use {this item/these items}, how much more control do you have over your daily activities? Would you say...

MORECTRL

1. no more,
2. a little more, or
3. a lot more
4. DOES NOT APPLY
- 7. REFUSED
- 8. DON'T KNOW

EF-3. Because you use {this item/these items}, how much more often do you take part in activities you enjoy? Would you say...

MOREENJO

- 1. no more,
- 2. a little more, or
- 3. a lot more
- 4. DOES NOT APPLY
- 7. REFUSED
- 8. DON'T KNOW

COMMUNICATION TECHNOLOGY MODULE

CO-1. The next questions are about computers and telephones. In the last 30 days, have you used a computer?

USECOMPT

- 1. YES [GO TO CO- 2]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO CO-4]

CO-2. Did any of the computers that you used have...

<p>CO-2.1 an extra large keyboard, buttons, or letters? COMKEY</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>CO-2.2 an on screen keyboard or touch screen? COMSCRN</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p>DEFINITION (IF NEEDED): A touch screen allows you to interact with the computer by touching pictures or words on the screen.</p> </div>
<p>CO-2.3 something other than a mouse to point at the screen? COMPOINT</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p>DEFINITION (IF NEEDED): This might include, for example, a track ball, or hands-free device.</p> </div>
<p>CO-2.4 screen magnifier or software to enlarge objects on the screen? COMMAGN</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p>DEFINITION (IF NEEDED): A screen magnifier makes what is on the computer screen bigger so it is easier to see.</p> </div>

CO-3. In the last 30 days, did you use a computer for...

<p>CO-3.1 banking or managing household finances? COMBANK</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
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CO-3.2 ordering prescriptions? COMRX	1. YES 2. NO -7. REFUSED -8. DON'T KNOW
CO-3.3 shopping for groceries? COMGROC	1. YES 2. NO -7. REFUSED -8. DON'T KNOW
CO-3.4 shopping for things other than prescriptions and groceries? COMSHOP	1. YES 2. NO -7. REFUSED -8. DON'T KNOW
CO-3.5 looking up health-related information? COMHLTH	1. YES 2. NO -7. REFUSED -8. DON'T KNOW

CO-4. Do you have a cell phone?
CELLPHON

- 1. YES
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW

DEFINITION (IF NEEDED):
A cell phone, or mobile phone, can be used anywhere, for example, far away from the house or in a car.

CO-5. Did you get or change any of the telephones in your house so that you can make calls more easily or on your own?

MODPHONE

- 1. YES [GO TO CO--6]
- 2. NO [GO TO CO-7]
- 7. REFUSED [GO TO CO-7]
- 8. DON'T KNOW [GO TO CO-7]

CO-6. Do any of your telephones have ...

CO-6.1 large buttons? PHONBUTN	1. YES 2. NO -7. REFUSED -8. DON'T KNOW
CO-6.2 an amplifier or speaker phone? PHONAMP	1. YES 2. NO -7. REFUSED -8. DON'T KNOW
CO-6.3 TTY or text display device? PHONTTY	1. YES 2. NO -7. REFUSED -8. DON'T KNOW <div style="border: 1px solid black; background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p align="center">DEFINITION (IF NEEDED): TTY, or teletypewriter, allows the user to type messages to send over the telephone. TDD, or text display device, shows on a screen what is being said on the other end of the telephone.</p> </div>
CO-6.4 a flashing ringer? PHONRING	1. YES 2. NO -7. REFUSED -8. DON'T KNOW

<p>CO-6.5 voice activation/speech recognition? PHONSPCH</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0;"> <p>DEFINITION (IF NEEDED): Voice activation/speech recognition lets the telephone respond to your voice, for example, by dialing a number that you say out loud.</p> </div>
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CO-7. In the last 30 days, did you use your telephone for:

<p>CO-7.1 Banking or managing household finances? PHONBANK</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>CO-7.2 Ordering prescriptions? PHONRX</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>CO-7.3 Shopping for groceries? PHONGROC</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>CO-7.4 Shopping for things other than prescriptions and groceries? PHONSHOP</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>

RESIDUAL ADL AND IADL DIFFICULTY MODULE

NOTE TO USER

The Residual ADL and IADL Difficulty Module (RD) requires items from the Home Environment (HE) and Mobility and Other Technologies (MO) Modules

The next questions are about how well you can do your daily activities on your own.

RD-1 CATI FILL INSTRUCTIONS

IF (MO-2.1a =1,2,3, or 4) OR (MO-2.2a =1,2,3, or 4) OR (MO-2.3a =1,2,3, or 4) OR (MO-3.5 =1) OR (MO-3.6 =1) OR (MO-3.7 =1) THEN display **“Using your _____, how”** and fill blank with one ore more phrases as follows:

- IF (MO-2.1a =1,2,3, or 4) THEN display **“cane”**
- IF (MO-2.2a =1,2,3, or 4) THEN display **“walker”**
- IF (MO-2.3a =1,2,3, or 4) THEN display **“wheelchair”**
- IF (MO-3.5 =1) THEN display **“special bed or chair”**
- IF (MO-3.6 =1) THEN display **“trapeze, lift, or sling”**
- IF (MO-3.7 =1) THEN display **“raising seat or lift chair”**

ELSE display **“How”**

RD-1. {Using your ____, how/How} much difficulty do you have getting out of a bed or chair by yourself? Would you say ...

BEDDIFF

1. none,
2. some,
3. a lot, or
4. are you unable to do this by yourself ?
5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-2 CATI FILL INSTRUCTIONS

IF (MO-2.1b=1,2,3, or 4) OR (MO-2.2b=1,2,3, or 4) OR (MO-2.3b=1,2,3, or 4) OR (MO-2.4b=1,2,3, or 4) OR (HE-12.2b=1,2,3, or 4) OR (HE-12.3b=1,2,3, or 4) OR (HE-12.4b=1,2,3, or 4) OR (HE-12.5b=1,2,3, or 4) THEN display: “Using your _____, how” and fill blank with one ore more phrases as follows:

- IF (MO-2.1b=1,2,3, or 4) THEN display “cane”
- IF (MO-2.2b=1,2,3, or 4) THEN display “walker”
- IF (MO-2.3b=1,2,3, or 4) THEN display “wheelchair”
- IF (MO-2.4b =1,2,3, or 4) THEN display “scooter”
- IF (HE-12.2b=1,2,3, or 4) THEN display “elevator”
- IF (HE-12.3b=1,2,3, or 4) THEN display “chair lift or stair glide”
- IF (HE-12.4b=1,2,3, or 4) THEN display “handrails in the staircases”
- IF (HE-12.5b=1,2,3, or 4) THEN display “handrails in the hallway”

ELSE display “How”

RD-2 {Using your ____, how/How} much difficulty do you have getting around your {home/home or building} by yourself? Would you say ...

HOMDIFF

1. none,
2. some,
3. a lot, or
4. are you unable to do this by yourself ?
5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-3 CATI FILL INSTRUCTIONS

IF (MO-2.1c= 1,2,3, or 4) OR (MO-2.2c=1,2,3, or 4) OR (MO-2.3c=1,2,3, or 4) OR (MO-2.4c=1,2,3, or 4) OR (HE-5.3a=1,2,3, or 4) OR (HE-10.3b=1,2,3, or 4) THEN display “Using your _____, how” and fill blank with one ore more phrases as follows:

- IF (MO-2.1c=1,2,3, or 4) THEN display “cane”
- IF (MO-2.2c=1,2,3, or 4) THEN display “walker”
- IF (MO-2.3c=1,2,3, or 4) THEN display “wheelchair”
- IF (MO-2.4c=1,2,3, or 4) THEN display “scooter”
- IF (HE-5.3a=1,2,3, or 4) THEN display “ramp”
- IF (HE-10.3b=1,2,3, or 4) THEN display “ramp”

ELSE display “How”

RD-3. {Using your ____, how/How} much difficulty do you have leaving your {home/building} by yourself? Would you say ...

OUTDIFF

1. none,
2. some,
3. a lot, or
4. are you unable to do this by yourself ?
5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-4 CATI FILL INSTRUCTIONS

IF (HE-13.2b=1,2,3, or 4) OR (HE-13.3b=1,2,3, or 4) THEN display “Using your _____, how” and fill blank with one or more phrases as follows:

IF HE-13.2b=1,2,3, or 4 THEN display “grab bars”

IF HE-13.3b=1,2,3, or 4 THEN display “shower or bath seat”

ELSE display “How”

RD-4. {Using your ____, how/How} much difficulty do you have showering or bathing by yourself? Would you say ...

BTHDIFF

1. none,
2. some,
3. a lot, or
4. are you unable to do this by yourself ?
5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-5 CATI FILL INSTRUCTIONS

IF (HE-14.1b= 1,2,3, or 4) OR (HE-14.2=1) THEN display “Using your _____, how” and fill blank with one or more phrases as follows:

IF HE-14.1b= 1,2,3,4 THEN display “grab bars around the toilet”

IF HE-14.2=1 THEN display “raised or modified toilet seat”

ELSE display “How”

RD-5. {Using your ____, how/How } much difficulty do you have using the toilet by yourself, including getting on and off? Would you say ...

TOLDIFF

1. none,
2. some,
3. a lot, or
4. are you unable to do this by yourself ?
5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-6.1a In the last 30 days, did you prepare any meals?

MEALPREP

- 1. YES [GO TO RD-6.1b]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO RD-6.2a]

RD-6.1b CATI FILL INSTRUCTIONS

IF (MO-3.10=1) THEN display “Using your adapted utensils or adapted appliances, how”
ELSE display “How”

RD-6.1b. {Using your adapted utensils or adapted appliances, how/How} much difficulty do you have preparing meals by yourself? Would you say ...

MEALDIFF

- 1. none,
- 2. some,
- 3. a lot, or
- 4. are you unable to do this by yourself ?
- 5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-6.2a In the last 30 days, did you shop for groceries?

SHOPGROC

- 1. YES [GO TO RD-6.2b]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO RD-6.3a]

RD-6.2b CATI FILL INSTRUCTIONS

IF (MO-2.1c=1,2,3, or 4) OR (MO-2.2c=1,2,3, or 4) OR (MO-2.3c=1,2,3, or 4) OR (MO-2.4c=1,2,3, or 4) OR (MO-2.5=1) OR (CO-3.3=1) or (CO-7.3=1) THEN display “Using ____,

RD-6.2b. {Using ____, how/How} much difficulty do you have shopping for groceries by yourself? Would you say ...

SHOPDIFF

- 1. none,
- 2. some,
- 3. a lot, or
- 4. are you unable to do this by yourself ?
- 5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

RD-6.3a In the last 30 days, did you spend any time managing your money, such as keeping track of expenses or paying bills?

MNGMONEY

- 1. YES [GO TO RD-6.3b]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO RD-6.4a]

RD-6.3b CATI FILL INSTRUCTIONS

IF (MO-3.3=1) OR (CO-3.1=1) OR (CO-7.1=1) THEN display “Using your ____, how”, and fill blank with one or more phrases as follows:

IF (MO-3.3=1) THEN DISPLAY “**vision aids other than glasses**”

IF (CO-3.1=1) THEN DISPLAY “**computer**”

IF (CO-7.1=1) THEN DISPLAY “**telephone**”

ELSE display “**How**”

RD-6.3b. {Using your ____, how/How} much difficulty do you have managing your money by yourself?

MNGDIFF

- 1. none,
- 2. some,
- 3. a lot, or
- 4. are you unable to do this by yourself ?
- 5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

CATI SKIP INSTRUCTIONS

IF HE-2=5 then go to END
IF (MO-4.1=1) OR (MO-4.3=1) THEN GO TO 6.4b

RD-6.4a In the last 30 days, did you go places outside of walking distance?

DISTOUT

- 1. YES [GO TO RD-6.4b]
 - 2. NO
 - 7. REFUSED
 - 8. DON'T KNOW
- } [GO TO END]

RD-6.4b CATI FILL INSTRUCTIONS

IF (MO-4.1=1) OR (MO-4.2a=1) OR (MO-4.2b=1) OR (MO-4.3=1) THEN display “Using your ____, how” and fill blank with one or more phrases as follows:

IF (MO-4.1=1 AND MO-4.2a ^1 AND MO-4.2b ^1) THEN display “car”
ELSE IF (MO-4.1=1 AND (MO-4.2a=1 OR MO-4.2b=1)) THEN display
“adapted car”
ELSE IF (MO-4.3=1) THEN display “paratransit service”

RD-6.4b. {Using your ____, how/How} much difficulty do you have getting places outside of walking distance by yourself?

DISTDIFF

- 1. none,
- 2. some,
- 3. a lot, or
- 4. are you unable to do this by yourself ?
- 5. NEVER DOES WITHOUT HELP
- 7. REFUSED
- 8. DON'T KNOW

END

**Survey Modules to Measure
Assistive Technology and the Home Environment**

Recommended 2-3 Minute Module

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*This instrument was created with funding from the Department of Health and Human Service's Office of the Assistant Secretary of Planning and Evaluation in cooperation with the National Institute on Aging (R01 AG14346) and the National Center for Health Statistics. A full report is available from the authors upon request. Address correspondence to: Vicki A. Freedman, Ph.D., Professor, Department of Health Systems and Policy, University of Medicine and Dentistry of New Jersey-School of Public Health, 335 George Street, Suite 2200, New Brunswick, NJ 08903, vfreedman@umdnj.edu.

Instructions to Train Interviewers

Read only response options in lower case. If the responses to a question are typed in upper case letters, they should not be read to the respondent.

Offer the interviewer the option of not reading repetitive response choices.

Several of the modules involve sequences of questions with repetitive response choices. We recommend offering interviewers the option of not reading response options once respondent have demonstrated learning the response pattern, generally not before the third time.

Provide definition if needed. Definitions for items that may be unfamiliar to some respondents are provided. These are intended to be read only as needed. Interviewers should be trained to read definitions only if the respondent asks for clarification or definition of a term or if the respondent conveys confusion about the meaning of the question.

Read introductory phrases in parentheses as needed for clarity. In several cases, questions in a series use a similar introductory phrase. When a respondent is routed into a detailed follow-up sequence the introduction should not appear in parentheses and should be read. Where the questions are moving rapidly in a sequence (for example, where the respondent is saying “no” to all device use questions and skips past the detailed use items) the introductory phrase should appear parenthetically and may be included as needed for clarity.

Instructions for new construction and home improvement (HE module). When respondents have made improvements (e.g., upgraded a grab bar) or renovations to an existing home (e.g., remodeled a bathroom), they should code the upgraded features as “added (or upgraded).” If respondents have difficulty separating out the cost of these features from the rest of the renovation/building costs, interviewers should repeat the list of items that were added and ask them to focus on the cost of only those features. If the respondent is unable to separate the cost of the feature from the larger project then mark ‘don’t know’.

Note on Conventions Used in Instrument

CATI instructions appear in white text boxes. Notes about question interdependencies across sections appear in yellow text boxes. Definitions appear in grey text boxes. Variable names used in the pilot study appear in red.

HOME ENVIRONMENT MODULE

We are interested in features of your home and items you have to make your daily activities easier, safer, or so you can do them on your own. First I have some questions about the inside of your home.

HE-1. Is your home part of a building that has two or more apartments or units with a common or shared entrance?

BLDGUNIT

- 1. YES
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW

NOTE TO USER

HE-1 is used to fill items in the Mobility and Other Devices Module (MO-2.1b, MO-2.2b, MO-2.3b, MO-2.4b, MO-2.1c, MO-2.2c, MO-2.3c, and MO-2.4c).

HE-11. Is your living space on more than one floor?

HOMELVL

- 1. YES [GO TO HE-12]
- 2. NO
- 7. REFUSED
- 8. DON'T KNOW

}

READ INTRO “Whether or not you use them, does your home have...” AND GO TO HE-12.5]

HE-12. Whether or not you use it, does your home have...

<p>HE-12.1 a bedroom, kitchen, and bath on the same floor?</p> <p>FLORHOME</p> <ul style="list-style-type: none"> 1. YES 2. NO -7. REFUSED -8. DON'T KNOW 		
<p>HE-12.3 [Whether or not you use it, does your home have...] a chair lift or stair glide?</p> <p>LIFTHOME</p> <ul style="list-style-type: none"> 1. YES [GO TO HE-12.3a] 2. NO -7. REFUSED -8. DON'T KNOW <p style="font-size: 2em;">}</p> <p>[GO TO HE-12.4]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A chair lift or stair glide is a motorized chair that runs up and down a staircase. You ride on a seat and get on and off at the top and bottom of the stairs.</p> </div>	<p>HE-12.3a Was it there when you moved in or was it added?</p> <p>LIFTADD</p> <ul style="list-style-type: none"> 1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW 	<p>HE-12.3b In the last 30 days when you went upstairs or downstairs, did you use the chair lift or stair glide ...</p> <p>LIFT30</p> <ul style="list-style-type: none"> 1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T GO UPSTAIRS OR DOWNSTAIRS -7. REFUSED -8. DON'T KNOW <p>[READ INTRO “Whether or not you use it, does your home have ...” AND FILL IN BLANK WITH ITEM IN HE-12.4]</p>

<p>HE-12.4 [Whether or not you use them, does your home have...] handrails in any of the staircases?</p> <p>1. YES [GO TO HE-12.4a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-12.5]</p>	<p>HE-12.4a Were these rails there when you moved in or were any of them added?</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.4b In the last 30 days when you went upstairs or downstairs, did you use the handrails...</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? 6. DIDN'T GO UPSTAIRS OR DOWNSTAIRS -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO "Whether or not you use it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-12.5]</p>
<p>HE-12.5 [Whether or not you use them, does your home have...] handrails in any of the hallways?</p> <p>RAILIHOM</p> <p>1. YES [GO TO HE-12.5a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-12.6]</p>	<p>HE-12.5a Were these rails there when you moved in or were any of them added?</p> <p>RAILIADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.5b In the last 30 days, when you went down the hallway, did you use the handrails ...</p> <p>RAILI30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO "Whether or not you have use it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-12.6]</p>

<p>HE-12.6 [Whether or not you use them, does your home have...] an emergency call or personal response system to help if you fall?</p> <p>EMERHOME</p> <p>1. YES (1) [GO TO HE-12.6a]</p> <p>2. NO (2) -7. REFUSED -8. DON'T KNOW } [GO TO HE-13]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): This is a system you use to call someone to come if you fall or need help. You can wear it around your neck or it can be attached to the wall.</p> </div>	<p>HE-12.6a Was this system there when you moved in or was it added?</p> <p>EMERADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-12.6b In the last 30 days, have you used this system to call for help?</p> <p>EMER30</p> <p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
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HE-13. Whether or not you use it, does your home have...

<p>HE-13.1 a stall shower separate from a tub?</p> <p>SHOWBATH</p> <p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>		
<p>HE-13.2 Whether or not you use them, does your home have any grab bars in the shower or tub area?</p> <p>BARBATH</p> <p>1. YES [GO TO HE-13.2a] 2. NO -7. REFUSED -8. DON'T KNOW } [GO TO HE-13.3]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A grab bar is designed to help you steady yourself. It may be attached to the wall or built in to the tub or shower. Do not include</p> </div>	<p>HE-13.2a Were these grab bar there when you moved in or were any of them added?</p> <p>BARADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-13.2b In the last 30 days, when you bathed or showered, did you use the grab bars ...</p> <p>BAR30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "Whether or not you use it, does your home have ..." AND FILL IN BLANK WITH ITEM IN HE-13.3]</p>

<p>HE-13.3 [Whether or not you use it, does your home have...] a seat for the shower or tub?</p> <p>SEATBATH</p> <p>1. YES [GO TO HE-13.3a] 2. NO } [GO TO HE -14] -7. REFUSED } -8. DON'T KNOW }</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): This includes a chair, bench, or stool that you put in the shower or tub, or a seat that is built in.</p> </div>	<p>HE-13.3a Was this seat there when you moved in or was it added?</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-13.3b In the last 30 days, when you bathed or showered, did you use the seat...</p> <p>SEAT30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO “Whether or not you use them, does your home have...” AND FILL IN BLANK WITH ITEM IN HE-14.1]</p>
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<p>HE-14.1 [Whether or not you use them, does your home have...] grab bars around any of the toilets?</p> <p>TOILBAR</p> <p>1. YES [GO TO HE-14.1a] 2. NO } [GO TO HE-14.2] -7. REFUSED } -8. DON'T KNOW }</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): A grab bar is designed to help you steady yourself. It may be attached to the wall or part of a frame that goes over the toilet. Do not include towel racks.</p> </div>	<p>HE-14.1a Were these grab bars there when you moved in or were any of them added?</p> <p>TOILADD</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	<p>HE-14.1b In the last 30 days, when you used the toilet, did you use the grab bars ...</p> <p>TOIL30</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p> <p>[READ INTRO “Does your home have...” AND FILL IN BLANK WITH ITEM IN HE-14.2]</p>
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<p>HE-14.2 [Does your home have...] a raised or modified toilet seat?</p> <p>MODSEAT</p> <p>1. YES [GO TO HE-14.2a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p style="text-align: right;">} [GO TO HE-15-INTRO]</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>DEFINITION (IF NEEDED): This includes a seat that is up higher than usual, either because the toilet or seat is raised, or a chair that fits over the toilet. Do not include portable urinals, commodes,</p> </div>	<p>HE-14.2a Was the raised or modified seat there when you moved in or was it added?</p> <p>1. THERE WHEN MOVED IN 2. ADDED (OR UPGRADED) -7. REFUSED -8. DON'T KNOW</p>	
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MOBILITY AND OTHER DEVICES MODULE

The next questions are about getting around both outside and inside your home.

MO-1. In the last 30 days, have you used a cane, walker, wheelchair, or scooter, yes or no?

USECANE

- 1. YES [GO TO MO-2]
- 2. NO [GO TO MO-2.5]
- 7. REFUSED [GO TO MO-2]
- 8. DON'T KNOW [GO TO MO-2]

MO-2 CATI FILL INSTRUCTIONS

IF (HE-1=1) THEN display “**home or building**” in MO-2.1b, MO-2.2b, MO-2.3b, MO-2.4b and “**building**” in MO-2.1c, MO-2.2c, MO-2.3c, and MO-2.4c
ELSE IF (HE-1=2, -7, or -8) THEN display “**home**” in MO-2.1b, MO-2.2b, MO-2.3b, MO-2.4b, MO-2.1c, MO-2.2c, MO-2.3c, and MO-2.4c

IF (MO-1=1) THEN display “**Okay, I’d like to ask you a few more questions about these items.**”

MO-2. In the last 30 days, did you use ...

<p>MO-2.1 a cane? CANEUSE</p> <p>1. YES [GO TO MO-2.1 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.2]</p> <div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0;"> <p>DEFINITION (IF NEEDED): Include here straight canes, walking sticks, and multi-pronged canes. Do not include white canes to help you walk if you are blind, since we'll ask about vision aids like that later.</p> </div>	<p>MO-2.1a In the last 30 days, when you got out of a bed or chair, how often did you use your cane to help? Would you say ... CANEVED</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.1b In the last 30 days, when you walked around <u>inside</u> your {home/ home or building}, how often did you use your cane? CANEWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.1c In the last 30 days, when you <u>left</u> your {home/ building} how often did you use your cane? CANEOUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "In the last 30 days, did you use ..." AND FILL IN BLANK WITH ITEM IN MO-2.2]</p>
<p>MO-2.2 [In the last 30 days, did you use] a walker? WALKUSE</p> <p>1. YES [GO TO MO-2.2 a] 2. NO -7. REFUSED -8. DON'T KNOW</p> <p>} [GO TO MO-2.3]</p>	<p>MO-2.2a In the last 30 days, when you got out of a bed or chair, how often did you use your walker to help? Would you say ... WALKBED</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.2b In the last 30 days, when you walked around <u>inside</u> your {home/ home or building}, how often did you use your walker? WALKWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.2c In the last 30 days, when you <u>left</u> your {home/ building} how often did you use your walker? WALKOUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "In the last 30 days, did you use ..." AND FILL IN BLANK WITH ITEM IN MO-2.3]</p>

<p>MO-2.3 [In the last 30 days, did you use] a wheelchair? WHELUSE</p> <p>1. YES [GO TO MO-2.3 a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO MO-2.4]</p>	<p>MO-2.3a In the last 30 days, when you got out of a bed or chair, how often did you use your wheelchair to help? Would you say ... WHELBED</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.3b In the last 30 days, when you went around <u>inside</u> your {home/ home or building}, how often did you use your wheelchair? WHELWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.3c In the last 30 days, when you <u>left</u> your {home/ building}, how often did you use your wheelchair? WHELOUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW [READ INTRO "In the last 30 days, did you use ..." AND FILL IN BLANK WITH ITEM IN MO-2.4]</p>
<p>MO-2.4 [In the last 30 days, did you use] a scooter? SCTRUSE</p> <p>1. YES [GO TO MO-2.4a]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO MO-2.5]</p>	<p>MO-2.4a Do you own or rent this scooter?</p> <p>1. YES [GO TO MO-2.4b]</p> <p>2. NO -7. REFUSED -8. DON'T KNOW } [GO TO MO-2.5]</p>	<p>MO-2.4b In the last 30 days, when you went around <u>inside</u> your {home/home or building}, how often did you use your scooter? Would you say ... SCTRWALK</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>	<p>MO-2.4c In the last 30 days, when you <u>left</u> your {home/ building}, how often did you use your scooter? SCTRUT</p> <p>1. every time 2. most times 3. sometimes 4. rarely, or 5. never? -7. REFUSED -8. DON'T KNOW</p>
<p>MO-2.5 [In the last 30 days, have you used] a motorized cart or electric scooter at the store? MOTGROC</p> <p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>			

MO-3. The next questions are about some other items that you may use to make your daily activities easier, safer, or so that you can do them on your own. In the last 30 days, have you used ...

<p>MO-3.1 a hearing aid or other hearing device? HEARAID</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>MO-3.2 [In the last 30 days, have you used ...] glasses or contacts? GLASSES</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p>
<p>MO-3.3 [In the last 30 days, have you used ...] vision aids other than glasses? VISION</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div data-bbox="846 506 1354 695" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>DEFINITION (IF NEEDED): Vision aids include things like a magnifying glass or a white cane to help you walk if you are blind.</p> </div>
<p>MO-3.4 [In the last 30 days, have you used ...] a reacher or grabber? REACHER</p>	<p>1. YES 2. NO -7. REFUSED -8. DON'T KNOW</p> <div data-bbox="846 793 1354 940" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>DEFINITION (IF NEEDED): A reacher or grabber is used to help reach or grasp objects.</p> </div>

END

DEVELOPMENT OF AN ASSISTIVE TECHNOLOGY AND ENVIRONMENTAL ASSESSMENT INSTRUMENT FOR NATIONAL SURVEYS: FINAL REPORT

Files Available for This Report

Part I: Recommended Modules and Instrument Development Process

HTML: <http://aspe.hhs.gov/daltcp/reports/ATEAdevI.htm>

PDF: <http://aspe.hhs.gov/daltcp/reports/ATEAdevI.pdf>

Also available separately:

Module A. Survey Modules to Measure Assistive Technology and the Home Environment: Recommended 8-10 Minute Modules

<http://aspe.hhs.gov/daltcp/reports/ATEAdevI-A.pdf>

Module B. Survey Modules to Measure Assistive Technology and the Home Environment: Recommended 2-3 Minute Module

<http://aspe.hhs.gov/daltcp/reports/ATEAdevI-B.pdf>

Part II: Pilot Study Results for Recommended Items

HTML: <http://aspe.hhs.gov/daltcp/reports/ATEAdevII.htm>

PDF: <http://aspe.hhs.gov/daltcp/reports/ATEAdevII.pdf>

Also available separately:

Module A. Home Environment Module

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-A.pdf>

Module B. Mobility and Other Devices Module

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-B.pdf>

Module C. Effectiveness/Participation Module

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-C.pdf>

Module D. Communication Technology Module

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-D.pdf>

Module E. Residual ADL and IADL Difficulty Module

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-E.pdf>

Appendix I. Crosswalk of Question Numbers from Pilot Test and Final Recommended Modules

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-apI.pdf>

Appendix II. Technology and Aging Pilot Survey: Instrument for the Pilot Study

<http://aspe.hhs.gov/daltcp/reports/ATEAdevII-apII.pdf>