

HHS/OS/ASPE  
SUPPORTING STATEMENT FOR  
OMB INFORMATION COLLECTION REQUEST

Part A

Date: November 15, 2013

**Survey on Long-Term Care Awareness and Planning**

Supported by:

Department of Health and Human Services  
Office of the Secretary  
Office of the Assistant Secretary for Planning and Evaluation  
Office of Disability, Aging and Long-Term Care Policy

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- Attachment A. Questionnaire
- Attachment B. *Federal Register* Notice
- Attachment C. RTI International IRB Approval

## **SUPPORTING STATEMENT A**

### **A. JUSTIFICATION**

The U.S. Department of Health and Human Services (HHS) / Assistant Secretary for Planning and Evaluation (ASPE) is requesting clearance to conduct a survey of adults between the ages of 40 and 70 on long-term care awareness, how people plan for retirement and their preferences for long-term care financing options. Long-term care includes helping people with daily activities, such as bathing, dressing, taking medications, and preparing meals over a long period of time. Long-term care can be provided in nursing homes, assisted living facilities, adult day care programs, and individual homes. Most people with disabilities are elderly, but people of all ages may need long-term care (Kaye, Harrington, & LaPlante, 2010).

With the aging of the population, the number of people with disabilities is sure to grow substantially. According to one estimate, the number of older people with disabilities will approximately double between 2000 and 2030 (Johnson, Toohey, & Wiener, 2007). As the number of people with disabilities increases, so will the use of long-term care services. Indeed, contrary to widespread belief that long-term care affects only a small minority of the population, 69 percent of people turning age 65 will need long-term care before they die and a third of the population will spend some time in a nursing home (Kemper, Komisar, & Alecxih, 2005). This increase in the use of services is likely to substantially increase public spending for long-term care. It is simply not possible to finance services for twice as many people with disabilities for the same amount of money. The Organization for Economic Co-operation and Development (2006) projects that public long-term care expenditures for older people in the United States, which were about 1 percent of gross domestic product in 2005, will climb to 2 to 3 percent of gross domestic product in 2050.

The United States spent about \$211 billion in 2011 providing long-term care services (O'Shaughnessy, 2013).<sup>1</sup> Despite these expenditures, our long-term care system inadequately protects people from the financial devastation of long-term disabling conditions such as Alzheimer's disease or stroke. Medicare does not pay for long-term care services and only approximately 12 percent of people aged 65 or older and 5 percent of people aged 45 or older have private long-term care insurance (Johnson & Park, 2011). In 2013, the median cost of a

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<sup>1</sup> This amount excludes Medicare spending for skilled nursing facility and home health care, which covers primarily short-term post-acute care, which is not long-term care.

year in a private nursing home room is almost \$84,000 and the median cost of 30 hours per week of paid home health aide care is nearly \$30,000 per year (Genworth Financial, 2013). Many older adults pay for long-term care out of their income and personal savings until they are poor enough to qualify for Medicaid, a means-tested welfare program (Wiener et al., 2013). Others, in an effort to avoid exhausting their resources and relying on Medicaid, depend on unpaid family support or go without needed services.

The goal of this project is to contribute to the knowledge base regarding how people plan for the possibility of needing long-term care and for retirement in general and assess their preferences about long-term care insurance. Information about long-term care and retirement planning will be obtained from a large sample of individuals 40–70 years of age who are part of an ongoing Internet panel maintained by GfK Custom Research, LLC. Prior to the development of the survey instrument, a thorough review of the literature was conducted and conceptual framework prepared. A survey instrument was developed with contributions of a Technical Expert Panel (TEP), which provided guidance on the content and methodology of the survey instrument and comprised experts on survey methodology and long-term care and long-term care insurance. Part of the survey is a discrete choice experiment (DCE) designed to elicit respondent preferences on features of long-term care insurance. The survey was cognitively assessed and revised based on revised based on the results of the testing. GfK will administer the survey; RTI International will analyze the survey. Both GfK and RTI have experience doing similar work for HHS/ASPE and other government clients.

### **A.1 Circumstances That Necessitate the Data Collection**

This supporting statement is for a new data collection effort. Several issues make this data collection effort necessary. In 2011, the United States spent \$211 billion on long-term care, approximately 8 percent of total national health expenditures, of which two-thirds was public spending, primarily Medicaid (Centers for Medicare & Medicaid Services [CMS], 2012; O’Shaughnessy, 2013). Total long-term care spending is about 1.4 percent of the gross domestic product; public spending is about 1 percent of the gross domestic product (Author’s calculation based on CMS, 2012). The number of aging and disabled individuals in the population is expected to continue to grow and, with it, the need for additional public financing. The Organization for Economic Co-operation and Development (2006) estimates that public long-

term care expenditures for older people in the United States will double to triple as a percentage of the gross domestic product between 2005 and 2050. As a result, the government has an increased need for information on the general public's knowledge about long-term care and how people plan to organize and pay for their possible long-term care needs. HHS/ASPE is particularly interested in the views of the public on different potential public policies on long-term care financing and in what design features of long-term care insurance are most important.

### ***A.1.1 Study Summary***

With the aging of the population, the demand and need for long-term care is certain to grow, and with it public and private expenditures. Unlike for medical care, few people have private long-term care insurance and Medicare does not cover long-term care. Many older adults pay for long-term care out of their income and personal savings until they are poor enough to qualify for Medicaid, a means-tested welfare program (Wiener et al., 2013). Others, in an effort to avoid exhausting their resources and relying on Medicaid, depend on unpaid family support or go without needed services. To help inform federal policy on long-term care financing and service delivery, this study, sponsored by HHS/ASPE, will collect new data on long-term care awareness and how people plan for retirement through a web-based survey. The main goals of the survey are (1) to understand consumer attitudes, knowledge, and experiences with long-term care, how people plan for the risk of needing long-term care, and people's preferences among public policies on long-term care financing; and (2) to examine consumer preferences for specific features of individual long-term care insurance policies (e.g., benefit levels, length of coverage, and sponsorship). The findings from the survey will be used to inform federal policy regarding public and private long-term care financing. The first part of the survey addresses the first set of goals, while a stated preference survey method, known as a discrete choice experiment (DCE) or conjoint analysis, in the second part of the survey addresses the second set of goals. RTI has designed and cognitively tested the survey instrument and will conduct the analysis; GfK will administer the survey.

The survey instrument was developed by RTI in close cooperation with ASPE and in consultation with a TEP and other experts on long-term care and long-term care insurance, and underwent two distinct rounds of cognitive testing of nine participants each. The survey has two components. The first asks questions on (1) the risk of needing long-term care; (2) psychological

characteristics, knowledge, skills, and experience; (3) beliefs and concerns about long-term care; (4) retirement and long-term care planning; (5) information gathering and decision making about insurance; and (6) core demographic and socioeconomic information. The second component of the survey is a DCE, which seeks to understand respondents' preferences about specific long-term care insurance features. In the DCE, respondents will complete a series of comparison questions in which they select their most preferred choice between two alternative insurance products. Some scenarios will also offer respondents a third option to not buy either of the insurance policies; other scenarios will "require" respondents to choose between two policies. Both types of hypothetical comparisons provide quantitative data on the relative preferences and importance of different insurance features, including price. Potentially sensitive questions concerning disability status, medical conditions, and income and assets have been extensively vetted with ASPE, the TEP, other experts, and the participants in the cognitive testing.

A sample of 23,077 adults aged 40 to 70 will be randomly drawn from KnowledgePanel® (KP), GfK's Knowledge Network's standing Internet panel. With an expected response rate of 65 percent, the survey will yield approximately 15,000 respondents. This age group was selected because the vast majority of long-term care insurance purchases are in it and this group is most likely to be planning their future long-term care use. KP is based on a sampling frame which is not limited to current Internet users or computer owners and does not accept self-selected volunteers. KP consists of about 55,000 U.S. residents, aged 18 and older, who were selected probabilistically and invited to participate. GfK provides a free computer and Internet connection to panel members without them. The KP sampling frame is based on a combination of a national random digit dialing sample frame and address-based sampling frames. Because of its national representativeness, ability to field large samples, low costs, and high response rates, KP has been used in numerous federal surveys of health and other issues.

The data collection period will be approximately 6 weeks. E-mail survey invitations will be sent by GfK to a sample of U.S. adults aged 40–70 from its standing panel. A respondent's initial log-in will direct the user to an Institutional Review Board (IRB)-approved online consent form, which provides general information about the study and any possible risks. To participate in the study, respondents must click a box to indicate that they have read the informed consent and that they voluntarily consent to participate in the study. Anyone who fails



to check that box will receive a screen thanking them and the session will end. Nonrespondents to the initial invitation will receive follow-up reminder e-mails. Interested participants will self-administer the web-based instrument at their convenience in their own homes or elsewhere, which will take approximately 45 minutes. To encourage participation, a small incentive of 10,000 KP “points” (equivalent to about \$10.00) will be provided to respondents. Points can be exchanged for merchandise and other prizes.

Consenting participants will begin the survey on a short introduction page, and then proceed through several distinct sections of the survey about long-term care, health status, demographics, personal characteristics, assets and income, and insurance. Next, to measure preference for long-term care insurance policies, the survey will present a series of DCEs or stated preference comparisons. Participants will have the ability to pause the survey and restart it at a later time at their convenience.

After data collection is complete, the final data file will be generated following strict quality procedures at GfK by multiple supervisors and random checking on a case level to ensure proper merging and formatting. GfK will de-identify and encrypt the data before final delivery to RTI. The final data file will contain no personal identifiers.

Once the data are received, RTI will analyze them. The first set of analyses will address domains in the first part of the survey and will include descriptive and multivariate analyses of the extent to which respondents plan for long-term care and their preferences among public policies for long-term care financing. In addition to sociodemographic variables such as financial literacy, the extent to which respondents are “planners” or “nonplanners,” the experience of respondents with long-term care, and risk tolerance will be important indicator variables. Descriptive analyses will be conducted to describe the overall sample along a number of relevant dimensions (e.g., assessment of risk of needing long-term care). The analysis will also characterize the sample by key indicator variables, to analyze the role of long-term care planning within the context of overall retirement planning, and to understand long-term care use and payment and policy preferences. Multivariate analyses will also be conducted, primarily of planning activity for long-term care and preferences for public policies for long-term care financing.

The second set of analyses will address the DCEs that respondents conducted to evaluate various features of long-term care insurance policies. DCEs are a form of conjoint analysis, an econometric method used to estimate the relative importance that respondents place on the different features of an individual product (e.g., for long-term care insurance, such features as length of coverage, benefit period, benefit amount, whether there is medical underwriting, and sponsorship). These data will be analyzed using standard discrete choice econometric techniques in which the parameter estimates in the choice models indicate the relative importance to respondents of different features of long-term care insurance. Thus, the ratio of two parameters indicates the marginal rate of substitution between them (i.e., the rate at which respondents changed their selections when attribute levels were varied).

**A.1.2 Survey Development/Domains**

A copy of the questionnaire is provided in **Attachment A**. The questionnaire was developed by drawing on questions from earlier surveys, including the Health and Retirement Study, America’s Health Insurance Plan’s Buyer/Non-Buyer Survey, MetLife’s Long Term Care IQ Survey, Lake Research Partners and American Viewpoint’s survey of California voters, the Own Your Future survey, and the Hawaii Long-Term Care Commission survey of Hawaii residents. Our goal was to develop a self-administered, web-based questionnaire that can be completed in 45 minutes. Demographic information that GfK maintains on its panel members is omitted from the survey in efforts to reduce participant burden. GfK will provide those data to RTI along with the analytic file. The survey domains developed for this survey are summarized in **Table A.1-1**.

**Table A.1-1. Domains of Long-Term Care Awareness and Planning Survey**

<b>Domain</b>	<b>Topic Areas</b>
Risk of Needing Long-Term Care	Questions concerning health condition, activities of daily living, and expectations of future long-term care needs
Psychological Characteristics, Knowledge, Skills, and Experience	Questions concerning willingness to take risks, family history of use of long-term care, and general knowledge of long-term care and associated costs
Beliefs and Concerns about Long-Term Care	Questions concerning home ownership, willingness to modify home and make lifestyle and financial changes to support long-term care needs, concerns about future disability, and beliefs about who is responsible for long-term care, including paying for it
Retirement and Long-Term Care Planning	Questions concerning current employment status, savings for retirement, retirement planning, and family discussions about long-term care

**Table A.1-1. Domains of Long-Term Care Awareness and Planning Survey (continued)**

<b>Domain</b>	<b>Topic Areas</b>
Information Gathering and Decision Making about Insurance	Questions concerning health, long-term care insurance and disability insurance coverage, and knowledge of long-term care insurance costs
Core Demographic and Socioeconomic Information	GfK will provide RTI with already collected sociodemographic information on its Internet panel members. Questions concerning family size and current household assets and income to ensure that we have the most up-to-date information.
Comparing Insurance Policies with a Combination of Features	Questions concerning the preferences of respondents in side-by-side comparisons of long-term care insurance policies with varying features (DCE)

## **A2. Sample**

The sample for this survey will consist of 23,077 adults aged 40 to 70, randomly drawn from KP, an Internet panel maintained by GfK. Assuming a 65 percent response, 15,000 completed surveys are expected. This age group was selected because the vast majority of long-term care insurance purchases are in it and this group is most likely to be planning their future long-term care use (LifePlans, 2012). Younger age groups are less likely to be knowledgeable about long-term care and older age groups are unlikely to be able to afford policies and have high disability rates that preclude them from purchasing policies.

KP is an established Internet panel. It is based on a sampling frame which is not limited to current Internet users or computer owners and does not accept self-selected volunteers. KP consists of about 55,000 U.S. residents, aged 18 and older, who were selected probabilistically and invited to participate. The exact size of the panel fluctuates somewhat as a result of various factors, including the addition of new panelists and attrition resulting from voluntary withdrawals.

In response to the growing number of cell phone-only households, GfK uses an address-based sample frame, with the exception of its Hispanic panel—some of whom are recruited by telephone to join the panel. The key advantage of the address-based sample frame is that it allows sampling of virtually all U.S. households. Because the frame is address based, household telephone status is not a limiting factor because members can all be contacted via the mail. This

method allows for a marked improvement in sample representativeness for minority racial and ethnic groups and improved recruitment of lower educated and income households.

KP is highly representative of the U.S. population (Dennis, 2010). *Exhibit A.2-1* provides weighted demographic data of adult KP members compared to Census benchmarks. The panel is weighted to correspond to the U.S. noninstitutionalized population.

**Table A.2-1. Comparison of Weighted KnowledgePanel® to Current Population Survey Data, June 2011**

		<b>Adult Panel Members<sup>1</sup> (%)</b>	<b>Adult U.S. Population (Dec 2011 CPS<sup>2</sup> except as noted) (%)</b>
<b>Sex</b>	Male	48.7	47.6
	Female	51.3	52.4
<b>Age</b>	18–24	12.4	11.3
	25–34	17.7	16.7
	35–44	17.2	16.7
	45–54	17.9	19.0
	55–64	18.3	17.3
	65 or over	16.5	18.9
<b>Race</b>	White Only	79.0	82.4
	Black (African American) Only	12.8	9.9
	American Indian, Alaskan Native Only	0.8	1.0
	Asian Only	2.4	4.7
	Hawaiian or Pacific Islander Only	0.6	0.4
	2+ Races	4.4	1.5
<b>Hispanic Ethnicity</b>	Hispanic	14.1	11.3
	Non-Hispanic	85.9	88.7
<b>Employment Status</b>	In the Labor Force	68.3	65.5
	Working full-time	57.6	60.6
	Working part-time	10.7	4.9
	Not in the Labor Force	31.3	34.5
<b>Marital Status</b>	Married	54.7	55.3
	Not Married	45.3	44.7

(continued)

**Table A.2-1. Comparison of Weighted KnowledgePanel® to Current Population Survey Data, June 2011 (continued)**

		<b>Adult Panel Members<sup>1</sup></b> <b>(%)</b>	<b>Adult U.S. Population</b> <b>(Dec 2011 CPS<sup>2</sup> except as</b> <b>noted) (%)</b>
<b>Housing Ownership<sup>3</sup></b>	Own	69.8	70.2
	Rent/Other	30.2	29.8
<b>Level of Education</b>	Less than High School Diploma	12.5	13.0
	High School Diploma or Equivalent	30.5	30.3
	Some College	28.8	28.7
	Bachelor's Degree or Beyond	28.3	28.0
<b>Household Income<sup>4</sup></b>	Under \$10,000	5.3	5.4
	\$10,000–\$24,999	13.7	13.8
	\$25,000–\$49,999	23.4	23.2
	\$50,000–\$74,999	19.0	18.9
	\$75,000 or more	38.7	38.6
<b>Census Region</b>	Northeast	18.7	18.4
	Midwest	21.9	21.7
	South	36.5	36.7
	West	22.9	23.2
<b>Internet Access (Household )<sup>5</sup></b>	Any Connection Speed	75.4	75.0
	Broadband	72.7	71.3

Source: GfK Custom Research, LLC, analysis of KnowledgePanel® and the 2011 Current Population Survey (CPS).

Notes:

<sup>1</sup> Active profiled adults are weighted to be representative of the U.S. population on age, sex, race, Hispanic ethnicity, language proficiency, region, metro status, education, household income, homeownership, and Internet access using poststratification adjustments to offset any nonresponse or noncoverage bias.

<sup>2</sup> Estimates were calculated using December 2011 CPS microdata available at [www.census.gov](http://www.census.gov). The data are weighted using CPS final individual weights.

<sup>3</sup> National housing statistics are from March 2011 CPS Annual Social and Economic Supplement.

<sup>4</sup> National income statistics are from March 2011 CPS Annual Social and Economic Supplement.

<sup>5</sup> National Internet coverage statistics are from October 2010 CPS Internet and Computer Usage Supplement.

### **A.3 Use of Improved Information Technology to Reduce Burden**

This survey will use electronic methods to obtain responses, which should reduce burden. Information will be collected via a web survey administered by the data collection partner GfK as part of a contract with ASPE/HHS. Web survey data collection was selected to minimize respondent burden and to facilitate the highest quality responses to both the base survey questions and the DCE questions, which are more difficult for respondents to complete using survey modes that do not include visual displays (Bijlenga et al. 2009; Ratcliffe et al., 2009). Partnering with GfK also provides access to a high-quality address-based sampling frame representative of the United States.

The online survey increases privacy relative to other electronic methods (e.g., telephone), which may reduce participant discomfort in answering sensitive questions and may increase the quality of data responses. This survey will be completed in respondents' homes at a time of their choosing. Other electronic methods would restrict respondents on the time, place, and setting in which they could respond. Further, the DCE questions on the survey are best completed when a visual display is available. Administering these DCE questions by telephone is difficult for respondents and would be more time-consuming and burdensome.

### **A.4 Efforts to Identify Duplication and Use of Similar Information**

No other federal agency, research organization, or trade association has conducted a study or data collection effort comparable to what is proposed in this study. This study is unique in its integrating a survey of long-term care awareness and planning with a DCE to gauge respondent interest in various public and private long-term care insurance policy features. RTI conducted a comprehensive review of the long-term care insurance literature and extensive efforts have been made to avoid unnecessary duplication and to ensure that the research team is abreast of any related studies on long-term care and efforts to measure long-term care awareness and planning (Wiener, Khatutsky & O'Keeffe, 2011). In addition, RTI and ASPE consulted a TEP (described below), which recommended the inclusion of a DCE in the survey. Through an extensive review of the literature, we have confirmed that DCEs have not been conducted that have been made publicly available or available to the government.

#### **A.5 Impact on Small Business or Other Small Entities**

No small business will be involved in this data collection.

#### **A.6 Consequences to Collecting the Information Less Frequently**

This request is for a one-time survey. Sampled respondents will be invited to respond to the data collection one time only. Additional collections are not required to meet ASPE goals and objectives for this research study.

The information collected in this study will assist federal policy development–related activities designed to support older Americans with disabilities. Without data and analyses from this survey, HHS will lack methodologically sophisticated, up-to-date information on consumer preferences for long-term care financing instruments. Without this information, HHS will not be able to design data-driven policies that will protect consumers from the high cost of long-term care services. The information collected through this survey will address the outstanding questions and gaps in information on long-term care awareness and planning that will enable policymakers to make informed decisions on this topic.

#### **A.7 Special Circumstances Relating to the Guidelines of 5 CFR 1320.5**

This project fully complies with all guidelines of 5 CFR 1320.5.

#### **A.8 Comments in Response to the *Federal Register* Notice and Efforts to Consult Outside the Agency**

##### **A. 60-day *Federal Register* Notice**

A 60-day *Federal Register* Notice was published on Month Day, Year, vol. #, No. #, pp. #-## (see **Attachment B**). There were no public comments.

##### **B. Efforts to Consult Outside Agency**

ASPE and the RTI project team consulted several outside experts in the preparation of this survey. Experts were consulted regarding the purpose and general design of the survey, including the addition of the DCE, and the domains and specific questions. Two sets of experts were consulted. First, RTI consulted with a research team that has a parallel contract with ASPE. **Table A.8-1** lists the names and affiliations, area of expertise, and contact information of the members of that team, which is led by Truven Health.

**Table A.8-1. Truven Health Research Team**

	<b>Name &amp; Affiliation</b>	<b>Area of Expertise</b>	<b>Contact Information</b>
1	Brian Burwell Vice President, Community Living Systems Truven Health	Private long-term care insurance, Partnership for Long-Term Care, Own Your Future Campaign, planning for long-term care	617-492-9302 <a href="mailto:Brian.burwell@truvenhealth.com">Brian.burwell@truvenhealth.com</a>
2	Eileen Tell Senior Vice President Univita Health	Private long-term care insurance, Partnership for Long-Term Care, Own Your Future Campaign, planning for long-term care	952-516-6121 <a href="mailto:etell@univitahealth.com">etell@univitahealth.com</a>
3	Jeremy Pincus, PhD Principal Forbes Consulting	Private long-term care insurance, planning for long- term care, discrete choice analysis	781.863.5000 x122 <a href="mailto:jpincus@forbesconsulting.com">mailto:jpincus@forbesconsulting.com</a>

Second, ASPE and RTI convened a TEP to aid in the design of the survey. The members of the TEP and their affiliation, area of expertise, and contact information are listed in **Table A.8-2**.

**Table A.8-2. Technical Expert Panel Members**

	<b>Name &amp; Affiliation</b>	<b>Area of Expertise</b>	<b>Contact Information</b>
1	Marc A. Cohen, PhD Chief Research and Development Officer LifePlans, Inc.	Long-term care insurance market. Conducted previous surveys of long-term care awareness and insurance purchase/nonpurchase, mainly for private insurers.	781-810-2410 <a href="mailto:mcohen@lifeplansinc.com">mcohen@lifeplansinc.com</a>
2	Michael Hurd, PhD Senior Economist and Director, Center for the Study of Aging RAND Corporation	Aging and older people; savings, wealth, and retirement; Social Security; economics of aging.	310-393-0411 <a href="mailto:mhurd@rand.org">mhurd@rand.org</a>
3	Annamaria Lusardi, PhD Denit Trust Distinguished Scholar in Economics and Accountancy George Washington University School of Business	Financial literacy.	202-994-8410 <a href="mailto:alusardi@gwu.edu">alusardi@gwu.edu</a>

(continued)



**Table A.8-2. Technical Expert Panel Members (continued)**

	<b>Name &amp; Affiliation</b>	<b>Area of Expertise</b>	<b>Contact Information</b>
4	Susan Lutz Project Manager Education & Outreach AARP	Responsible for (1) developing and implementing long-term care consumer materials and outreach initiatives; (2) providing technical expertise for new multiyear education campaign to increase awareness among women about the need to plan for long-term care; and (3) overseeing qualitative and quantitative research on perceptions of long-term care issues and the barriers and motivators that might move them to plan.	202-434-3580 <a href="mailto:slutz@aarp.org">slutz@aarp.org</a> .
5	Olivia S. Mitchell, PhD Professor of Insurance and Risk Management and Business and Public Policy Department of Business Economics and Public Policy The Wharton School University of Pennsylvania	Financial and health literacy and retirement preparedness; wealth, health, and retirement; annuities and health insurance.	215/898-0424 <a href="mailto:mitchelo@wharton.upenn.edu">mitchelo@wharton.upenn.edu</a>
6	Lindsay Resnick Chief Marketing Officer KBM Group: Health Services 1117 W. Wellington Chicago, IL 60657	Marketing of private insurance and health plans, especially to the Medicare population.	773-372-4961 <a href="mailto:lresnick@marketingdirect.com">lresnick@marketingdirect.com</a>
7	Marlene S. Stum, PhD Professor Department of Family Social Science University of Minnesota	Factors associated with purchase of long-term care insurance, aging families and long-term care, economic well-being, decision-making issues and processes in later life, improving financial literacy and family decision-making.	612-625-4270 <a href="mailto:mstum@umn.edu">mstum@umn.edu</a>
8	Robert Willis, PhD Research Professor Department of Economics University of Michigan	Past Director of the Health and Retirement Study.	734-936-7261 <a href="mailto:rwillis@umich.edu">rwillis@umich.edu</a> .

At an all-day meeting on March 21, 2011, in Washington, DC, the TEP discussed study objectives and design, research hypotheses, and methods of data collection. The TEP discussed a

literature review on long-term care awareness and planning and a related conceptual framework, and reviewed questionnaire options. It also reviewed the findings of a focus group conducted by the Truven Health Analytics team to help establish the domains of interest. The TEP recommended that a DCE be designed to give respondents the opportunity to choose different types of long-term care insurance products. Following the development of the questionnaire, the TEP was offered an opportunity to review the draft questionnaire and offer comment. Based on the input of the TEP and discussions with ASPE, RTI made several rounds of revisions to the survey instrument prior to conducting the cognitive interviews.

RTI has developed a structured approach to the assessment of questionnaires that takes into account individual items and response categories, instructions related to the content of questions and responses, and the flow of the questionnaire. We cognitively evaluated the questionnaire using RTI's Question Appraisal Scheme, which employs a coding system that assesses the questionnaire's cognitive demands and identifies features that are likely to result in errors associated with (1) respondents' understanding of specific questions, (2) their ability to retrieve information related to question's content, and (3) how they respond based on their judgment of "appropriate" responses.

Following this assessment, we conducted two rounds of one-on-one cognitive interviews and revised the questionnaire based on these interviews. Two rounds were necessary because of the extent of the changes in the questionnaire between the first and second rounds and the inability to cover in detail the entire 45-minute survey with a single person in a reasonable length of time. Cognitive interviews were conducted in Durham, North Carolina, and Washington, DC, in September and November 2012.

#### **A.9 Explanation of Any Payment or Gift to Respondents**

Survey participants will be offered a small noncash incentive by GfK to complete the web-based questionnaire. GfK uses a "points"-based incentive system to thank panel members for completing surveys of any length. GfK awards more points for longer surveys, and in particular, for those exceeding 25–30 minutes, as is the case for the proposed study. For this survey, each respondent will be provided 10,000 points, the monetary equivalent of \$10. This honorarium is intended to recognize the time spent by participants in completing the survey, encourage their cooperation, and convey appreciation for contributing to this important study.

Numerous empirical studies have shown that honoraria can significantly increase response rates (Abreu & Winters, 1999; Shettle & Mooney, 1999). All participant remuneration has been approved by the RTI IRB. IRB approval for the survey is provided in **Attachment C**.

#### **A.10 Assurance of Confidentiality Provided to Respondents**

The introductory computer screen will contain basic information about the study and the informed consent language. Respondents will be asked to acknowledge that they have read the introduction and consent to participate in the study prior to completing the questionnaire. This will eliminate the need for paper documentation. The introduction to the survey explains the study and how the data will be kept confidential:

Your name and e-mail address will never be linked to your answers. We will treat your answers as private to the extent permissible by law. You may also choose not to answer any questions.

Respondents will self-administer the questionnaire in the privacy of their own home or location of their choice. Although the survey questions are not overly sensitive, some respondents may consider the information to be private. Respondents will be have the opportunity to refuse to answer any question that they are not comfortable answering. This will help to reduce any anxiety over questions that may be viewed as sensitive because they are not responding in the presence of an interviewer.

All participants will be randomly assigned a unique identifier so that when data are coded and analyzed they can be stripped of identifying information. RTI and ASPE will receive information in a de-identified form. All data will be kept strictly private to the to the extent permissible by law.

RTI's IRB has reviewed informed consent materials and procedures for this information collection to ensure that the rights of individuals participating in the study are safeguarded. The questionnaire (**Attachment A**), including the informed consent acknowledgement, was reviewed by RTI's IRB and approved as an amendment to the overall study protocol on September 10, 2013. The IRB approval notification is included as **Attachment C**.

## **Privacy Impact Assessment**

### ***A.10.1. Privacy Act Determination***

Information collection is only covered by the Privacy Act when records are stored in a “system of records.” A system of records maintains records about individuals that include direct identifiers, organized in such a way that records can be retrieved by explicit identifies. This study will not create or use a system of records as defined by the Privacy Act and is therefore not covered by the Privacy Act.

### ***A.10.2. How the Information Will Be Secured***

GfK’s privacy policy is that all survey responses are private to the extent permissible by law and identifying information is never revealed without the respondent’s permission.

All electronic survey data records are stored in a secured database that does not contain personal identifying information. The staff members in Panel Relations and Panel Management who have access to the personal identifying information do not have access to the survey response data. Moreover, staff members with access to the survey response data, with the exception of the aforementioned database and IT administrators who must have access to maintain the computer systems, do not have access to the personal identifying information. The secured database contains field-specific permissions that restrict access to the data by type of user, preventing unauthorized access. All KN employees are required to sign a confidentiality agreement requiring them to secure personally indefinable information. Employees who violate the confidentiality agreement are subject to disciplinary action.

KN has developed a secure transmission and collection protocol, including the use of system passwords and two separate sets of firewalls to prevent unauthorized access to the system. Only de-identified data will be transmitted to RTI via an encrypted FTP server, with passwords transmitted separately by telephone. The data file itself will also be encrypted with 256-bit AES encryption with the password transmitted separately by telephone.

RTI will receive a de-identified dataset and will maintain the data on a secure server in a space dedicated to this study. Access to the data will be restricted; only project staff will have regular access to the data. At the conclusion of the contract with RTI, de-identified data will be delivered to Mr. Samuel Shipley, the ASPE project officer. The data files will be sent on a flash drive in a SAS readable format. The data will be stored on the secure ASPE network in a folder

with restricted access. Access to the folder for future analyses only will be permitted on pre-approved, case-by-case basis.

### **A.10.3. Respondent Consent**

All respondents recruited for the online national research survey will be required to read, review, and click a box indicating that they are 40 years of age or older and that they are providing informed consent to begin the survey. If a respondent does not so indicate, the survey will go to a termination screen and the survey will not be administered. The consent form has been reviewed and approved by RTI's IRB (*Attachment C*).

### **A.10.4. Informing Respondents of the Voluntary or Mandatory Nature of Their Response**

The IRB-approved survey includes text explaining that the survey is voluntary. The text is presented below in *Figure A.10-1*:

**Figure A.10-1. Survey Text on Voluntary Nature of Respondent Response**

<p><b>Long-Term Care Survey</b></p> <p>This survey is sponsored by the U.S. Department of Health and Human Services. RTI International developed the questionnaire. The survey is administered by GfK Custom Research. This survey is about how people plan for their retirement, especially for their future long-term care needs.</p> <p>Long-term care includes helping people with daily activities, such as bathing, dressing, taking medications, and preparing meals over a long period of time. Long-term care can be provided in nursing homes, assisted living facilities, in individual homes, or in the community. Most people with disabilities are elderly, but people of all ages may need long-term care.</p> <p>This survey will take about 45 minutes to complete. Your name and e-mail address will never be linked to your answers. We will treat your answers as private to the extent permissible by law. You may also choose not to answer any questions. You will be provided \$X for your time.</p> <p>If you have any technical questions about the study, you may call GfK Custom Research at 1-212-240-5300. If you have any questions about your rights as a study participant, you may contact RTI's Office of Research Protection at 1-866-214-2043 (a toll-free number).</p> <p>I have read and understand the statements above. I consent to participate in this survey.</p> <p><input type="radio"/> YES</p> <p><input type="radio"/> NO</p>
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### **A.11 Justification of Sensitive Questions**

Certain questions may be viewed as sensitive by respondents, particularly those related to disability, including cognitive status and ability to perform activities of daily living, health conditions, and income and assets. These variables are all critical to the study. Disability and health conditions are important predictors of the use of long-term care services and private long-term care insurance medical underwriting typically exclude people with cognitive and physical impairments and with certain medical conditions. Likewise, income and assets are important predictors of the purchase of long-term care insurance and of the use of home care, nursing home care, and assisted living. These questions were extensively vetted by all parties participating in the questionnaire development process to ensure the analytic value of each item. In addition, RTI conducted two rounds of cognitive testing of the questionnaire and did not identify any questions that were problematic. Information from these sensitive questions will be used to characterize study participants and help us to better understand their level of long-term care awareness and planning and their preferences for long-term care insurance.

### **A.12 Estimates of Response Burden**

The response burden estimates for this data collection are shown in *Exhibit A.12-1*. Survey invitations will be sent by the data collection partner, GfK, to a random sample of U.S. adults aged 40–70 participating in its standing Internet panel, KP. Adults who read the survey invitation and desire to participate will be redirected to a secure, password-protected website hosted by KN which contains the next two forms.

An IRB-approved consent form must be acknowledged by respondents before they are allowed to begin the survey. Respondents will be asked to read basic information about the research study, the study purpose, procedures, duration of the survey, possible risks or discomforts from the survey, benefits of participating, incentive for participation, privacy protections, individuals' rights, and whom to contact with questions. Respondents will then be required to click a box indicating that they have read the information, confirm that they are between the ages of 40 and 70, and that they voluntarily consent to participate in the study or decline to participate. Only those who consent and certify that they meet the age qualifications will continue to the full survey instrument.

Estimates for the time needed to complete the survey are based on cognitive testing of the questionnaire conducted during Fall 2012 in Durham, North Carolina, and Washington, DC. As part of the cognitive testing, the length of time to complete the questionnaire was measured. The cognitive testing suggests that the questionnaire requires approximately 45 minutes to complete. The initial series of questions take approximately 25 minutes to complete and the DCE section takes approximately 15–20 minutes to complete. Each respondent will answer the questionnaire only once and there are no planned follow-up surveys. Respondents will have the ability to pause the survey and restart it at a later time at their convenience.

*Exhibit A.12-1* summarizes the parameters used in making an estimate of total burden.

**Table A.12-1. Estimated Annualized Burden Hours**

Task	Number of respondents	Burden per response (hours)	Estimated Total Hours of Burden
Self-administered, Web-based questionnaire	15,000	0.75	11,250

Source: RTI International estimates.

**Table A.12-2. Estimated Annualized Burden Costs**

Task	Number of respondents	Burden per response (hours)	Estimated Total Hours of Burden	Hourly Wage <sup>1</sup>	Total Respondent Burden Costs
Self-administered web-based questionnaire	15,000	0.75	11,250	\$23.89	\$268,763

Source: RTI International estimates.

<sup>1</sup>U.S. Bureau of Labor Statistics, 2013.

GfK will send 23,077 invitations to participate to members of the sample, yielding an estimated 15,000 completed questionnaires based on an estimated overall response rate of 65 percent. This estimated response rate is based on other studies that KN has conducted with its Internet panel. Thus, the total estimated burden in time for this research study is 11,250 hours (15,000 respondents x 0.75 hours).

We anticipate that the actual cost to individual questionnaire respondents will be minimal. Respondents will complete the survey at their convenience so there will be no lost wages and no “inconvenience burden.” Other than their time, there are no additional costs to respondents.

The total time to participate in the survey is estimated to be about 0.75 hours or 45 minutes. Using standard methods of estimating the total cost of response burden, the estimated cost to respondents of completing this survey is calculated to be average wages multiplied by the number of burden hours. As shown in **Table A.12-2**, the estimated seasonally adjusted hourly earnings for all employees on private nonfarm payrolls in May 2013 were \$23.89 (U.S. Bureau of Labor Statistics, 2013). Thus, the total estimated burden cost will be \$268,763 (11,250 hours x \$23.89).

### **A.13 Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers**

There are no other direct costs to respondents or record keepers.

### **A.14 Estimates of Annual Cost to the Federal Government**

This project is a contracted data collection and analysis. The survey design work (already completed) and data analyses (to be completed after data collection) are performed by RTI at a cost of \$719,098 over a 4 year period. The data collection will be performed by GfK as part of a separate contract with ASPE at a cost of \$1,500,000 within one year after obtaining OMB approval. In addition, the ASPE Project Officer devotes 15% of his time to the project for an estimated additional annual cost of approximately \$11,250 or \$45,000 over 4 years. Thus, the total cost of the project is \$2,264,098; divided by the 4 years of the project, the annual cost is \$566,025.

### **A.15 Explanation for Program Changes or Adjustments**

This project does not represent any change in a data collection for an ongoing program. It is a new, one-time data collection.

### **A.16 Plan for Tabulation and Publication and Project Time Schedule**

#### ***A.16.1 Project Schedule***

The time schedule for the project is shown in **Table A.16-1**. Invitations to potential survey respondents will be sent by GfK 3 months after Office of Management and Budget (OMB) approval. The survey fielding period will be completed 5 months after OMB approval. Analyses and the final report will be completed 12 months after OMB approval. The key project tasks include (1) operational development work, including Web-based programming and sample



selection; (2) sample recruitment and invitations to participate; (3) data collection (4) file construction and cleaning; (5) data analysis; and (6) writing of the final report. We anticipate that the final report will be completed 12 months after OMB approval.

**Table A.16-1. Project Time Schedule**

<b>Activity</b>	<b>Time Schedule: Completion Date</b>
Operational development work, including Web-based programing and sample selection	2 months after OMB approval
Survey invitations sent to respondents	3 months after OMB approval
Survey data collection	5 months after OMB approval
File construction and cleaning	6 months after OMB approval
Statistical analyses	9 months after OMB approval
Final report	12 months after OMB approval

A final report for this exploratory research study will be written by RTI and delivered to ASPE no later than 12 months after OMB approval.

#### ***A.16.2 Plans for Tabulation and Publication***

A final report for this study will be written by RTI and delivered to ASPE no later than 12 months after OMB approval. The report will contain a detailed description of all aspects of the survey and an analysis of the questions in the standard survey and the DCE.

The ASPE report will have two components. The first will be a largely descriptive analysis of domains from the first part of the survey. The second part of the report will focus on the econometric estimation of preferences for various features of long-term care insurance using the DCE data from the second part of the survey. In addition to the report to ASPE, RTI anticipates writing a scientific paper on the descriptive findings and a scientific paper on stated preferences for long-term care insurance for publication in a peer-reviewed journal in gerontology, health economics, or public health. These papers, however, are not part of the contract.

In the sections that follow, we present more detail on the data analysis plan. First we present the analysis plan for the component of the study focused on consumer attitudes, knowledge, and experiences with long-term care, how people plan for the risk of needing long-term care, and people's preferences among public policies on long-term care financing. Second, RTI will estimate the relative and dollar importance of different long-term care insurance features and the willingness of people to purchase policies. The purpose of these analyses is to assess the relative importance of different long-term care insurance attributes and to assess willingness to pay for long-term care insurance.

## **Plans for Tabulation of Consumer Attitudes, Knowledge, and Experiences With Long-term Care, How People Plan for Risk of Needing Long-term Care, and Preferences for Public Policies on Long-term Care**

In general, the variables for the analyses will be divided into policy variables of interest, indicator variables, and other variables that will be used as controls.

### **Policy Variables of Interest**

In addition to providing basic descriptive information on consumer attitudes, knowledge, and experience with long-term care, our research using the first part of the survey will focus on variables related to the degree to which people engage in long-term care planning and on their preferences among several possible government policies regarding long-term care financing.

*Extent to which respondents plan for long-term care:* Although as many as 70 percent of people turning age 65 will need long-term care before they die (Kemper, Komisar, & Alecxih, 2005), few Americans plan for the possibility that they will need long-term care. For example, in a survey of Hawaii residents, 62 percent of respondents reported that they could not pay for any of the costs of nursing home or round-the-clock home care if a family member needed services (Khatutsky et al., 2010). Moreover, in 2010, only about 7 million individuals had long-term care insurance coverage (America's Health Insurance Plans, 2010; Life Insurance Manufacturers' Research Association [LIMRA], 2010). Despite 30 years of marketing, the long-term care coverage rate is only 12.4 percent for adults aged 65 and older and 5.4 percent for people aged 45 and over (Johnson & Park, 2011; LIMRA, 2010). The survey asks several questions regarding the extent to which individuals plan for the possibility of needing long-term care, including whether they have bought a private long-term care insurance policy, how they are planning for retirement, and whether they have had discussions about the type of long-term care they would prefer, the ways they would pay for long-term care, and the roles and responsibilities of different family members for arranging, paying for, or providing care, if needed.

*Preferences among public policies for long-term care financing:* The United States spent about \$211 billion in 2011 providing long-term care services (O'Shaughnessy, 2013). Despite these expenditures, our long-term care system inadequately protects people from the financial devastation of long-term disabling conditions such as Alzheimer's disease or stroke. Medicare does not pay for long-term care services and, as noted above, few people have private long-term care insurance. The median cost of a year in a private nursing home room bed in 2013 is nearly \$84,000 and the median cost of 30 hours per week of paid home health aide care is nearly

\$30,000 per year (Genworth Financial, 2013). Many older adults pay for long-term care out of their income and personal savings until they are poor enough to qualify for Medicaid, a means-tested welfare program (Wiener et al., 2013). Others, in an effort to avoid exhausting their resources and relying on Medicaid, depend on unpaid family support or go without needed services.

The survey asks several questions regarding the respondent's preferences for public policies on long-term care financing options designed to address these issues. Options presented to respondents include whether (1) tax incentives should be provided to people who buy long-term care insurance policies; (2) people should be allowed to purchase long-term care insurance with tax-deferred funds such as IRAs and 401(k) accounts; (3) people should be allowed to use tax-deferred funds, such as employer retirement accounts, to purchase long-term care insurance; (4) people should be required to purchase a private long-term care insurance policy; (5) for people who buy private long-term care insurance, the government should pay the cost of care after private long-term care insurance benefits run out; (6) the government should establish a voluntary public long-term care insurance program; and (7) the government should establish a mandatory, universal public long-term care insurance program.

### **Indicator Variables**

For both descriptive and multivariate analyses, we will create indicator variables that we will use to stratify the descriptive analyses. These variables are individual characteristics that the research suggests are key predictors of long-term care planning. These variables include the following:

*Financial literacy:* Long-term care insurance is a complicated financial product requiring sophisticated understanding of financial concepts. In particular, potential purchasers must estimate their financial status when they are 80 or 85 years of age, the cost of care many years in the future, and, if married, their spouses' risk of needing long-term care far into the future. Basic financial literacy includes an understanding of concepts such as numeracy, compound interest, inflation, and the time value of money. These skills are fundamental to systematic retirement planning, including developing a plan for long-term care. In addition, evaluation of long-term care insurance products requires fairly sophisticated financial analysis skills, which research suggests is lacking among most Americans. Almost all research on financial literacy to date has

been conducted within the context of general wealth accumulation rather than long-term care planning (Kaplan, 2007) and existing research does not directly link financial literacy with the purchase of long-term care insurance or other long-term care plans. We will measure financial literacy among respondents using standard variables from the research literature (Lusardi & Mitchell, 2006, 2007a,b,c, 2009a,b, 2010).

*“Planners” versus “nonplanners”*: The need for long-term care typically occurs among people aged 75 and older, which is many years in the future for most people. However, establishing the financial resources to pay for long-term care requires individuals to begin many years prior to their need. The available research, however, suggests that people who are planners are more likely to have private long-term care insurance than nonplanners (Pincus, 2006). For example, in its 2005 Buyer/Non-Buyer Survey, LifePlans (2007) found that 62 percent of long-term care insurance purchasers strongly agreed with the statement, “it is important to plan now for the possibility of needing long-term care services” compared to 30 percent of nonbuyers. Persons who ordered the long-term care planning kit offered during the *Own Your Own Future* campaign, which was designed to encourage people to develop a long-term care plan, also possessed the personality traits of planners and expressed greater concern about the possibility of becoming a burden on their family. We will categorize individuals as planners versus nonplanners using variables related to importance of planning for long-term care and items related to expressions of personal responsibility for long-term care.

*Experience with and knowledge about long-term care*: Unless people have basic information about long-term care—what it is, their risk for needing it, and what it costs—they are unlikely to be motivated to spend time establishing long-range plans or to be willing to spend significant amounts of money for long-term care insurance or other financing mechanisms. Numerous studies document that long-term care literacy among the general population is low (AARP, 2006; Associated Press-NORC Center for Public Affairs Research, 2013; Khatutsky et al., 2010; Matzek & Stum, 2010; MetLife Mature Market Institute, 2009). Although many people do not know much about long-term care, the Baby Boom cohort may be learning more about it because their aging parents require assistance. One common hypothesis is that people with experience with long-term care will be more likely to engage in planning activities than people without long-term care experience. Previous research suggests that there is a positive relationship between having experience with long-term care and long-term care preparation/planning

(LifePlans, 2007; Long-Term Care Group Inc. and LifePlans Inc. 2006; Stucki, 2001; Stum, 2001). We will either use individual survey items or create a scale to identify persons who have various levels of knowledge about long-term care or who have had experience with long-term care.

*Risk tolerance:* Because most people will not have an extensive and expensive period of long-term care use (Kemper, Komisar, & Alecxih, 2005), some people can tolerate the risk without making plans while others who are more risk averse take steps to manage that risk. Measuring respondents' risk tolerance with a scale of agreement/disagreement with the statement, "you are willing to take the chance that you won't need long-term care," Schaber and Stum (2007) found that those with lower willingness to take the risk of needing long-term care were more likely to enroll in group long-term care insurance, controlling for other factors. We will use survey items to identify people who are "risk takers" and people who are "risk averse."

#### **Control Variables**

We will use standard sociodemographic variables, such as age, race, education, income, and assets, as control variables in our descriptive analyses.

#### **Descriptive Analyses**

The purpose of the descriptive analyses is to provide a basic understanding of the data and to set the stage for the multivariate analyses. We will produce summary statistics of variables (frequencies for categorical variables and means for continuous variables and cross-tabulations of important policy-related variables with tests of significance). The results will be presented in chart form, where possible, to facilitate understanding of the information. Our descriptive analysis will include four components:

*Overall sample description by survey domain.* We will present selected variables to describe the study sample, including basic sociodemographics, key indicator variables, and key policy variables that are described below. A set of descriptive analyses will include respondents'

- Assessment of their long-term care risks
- Experience with long-term care
- Knowledge of long-term care costs and coverage
- Concerns and beliefs about long-term care
- Preferences for long-term care policies/coverage

- Retirement planning and preparation

*Comparison of key sample characteristics by key indicator variables.* We will conduct bivariate analyses to compare sociodemographic characteristics, health and functional status, and longevity perceptions of planners versus nonplanners, risk-takers versus those who do not like to take risk, those who are financially literate versus those who are not, and those who are knowledgeable about long-term care versus those who are not.

- The sociodemographic characteristics that we will analyze will include age, sex, marital status, education, household income and assets, home ownership, urban versus rural residence, and work status.
- The health and functional status characteristics that we will analyze include chronic conditions, activities of daily living, instrumental activities of daily living, anticipated longevity, and expectations of future nursing home use.

*Role of long-term care planning within the context of overall retirement planning.* We will conduct bivariate analyses to assess the extent to which people engage in certain retirement planning activities and whether they also engage in planning for long-term care. These retirement planning activities include talking seriously with family members about long-term care, learning about retirement options, consulting a financial planner, making contributions to IRA and 401(k) accounts, preparing a will, and preparing a written document on how health care decisions should be made if respondents are too sick to make the decisions themselves. The long-term care planning activities include buying a private long-term care insurance policy and having discussions with family about the type of long-term care preferred, how care would be paid for, and the roles of different family members in arranging, paying for, or providing needed care. We will conduct these analyses by sociodemographic characteristics, health and functional status characteristics, and indicator variables.

*Long-term care concerns, use, payment and policy preferences by key respondent characteristics.* We will conduct bivariate analysis to compare long-term care concerns, use, payment, and policy preferences by sociodemographic characteristics and indicator variables.

- Long-term care issues include the degree to which respondents are concerned about using up their savings, becoming Medicaid eligible, losing their independence, becoming a burden on their family, and being able to afford high-quality care.
- Use and payment variables include whether respondents would be willing to use home equity to pay for long-term care, whether they would be willing to move into

assisted living, whether they would be willing to receive care from relatives, and whether they would be willing to use paid home care.

- Policy issues addressed in the survey include whether respondents believe that paying for long-term care is an individual or government responsibility and whether respondents support tax incentives for private long-term care insurance, a voluntary public long-term care insurance program, or a mandatory public long-term care insurance program.

### ***Multivariate Analyses***

The purpose of the multivariate analyses of the first part of the survey will be to answer the research questions in a way that holds constant the other variables. In particular, the analyses seek to understand what individual factors influence policy preferences. Aside from basic sociodemographic characteristics, individual factors of interest include the indicator characteristics of planning, risk taking, and financial literacy.

The basic model for our regressions will have the following form:

$$\text{Outcome (e.g., Ownership of Long-Term Care Insurance)} = f(\text{independent variables}) + e(\text{error term})$$

where the predictor variables will be grouped into substantive domains presented in our conceptual framework (demographic factors, health and functional status, personal experience and exposure to long-term care issues, as well as key indicator characteristics such as being a planner, being a risk taker, and being a financially literate person). Depending on the type of outcome variable (binary, continuous scale or nominal categorical), we will choose the appropriate regression method for estimating the model. For example, binary outcomes such as ownership of private long-term care insurance will be estimated using a logit model and individual preferences for government long-term care policies will be estimated using a multinomial logit model.

### ***Plans for Tabulation of the Discrete Choice Experiment***

The DCE analysis will be conducted using multivariate statistical models for binary and discrete choice data. Specifically, both conditional and mixed logit models of respondents' stated choices will be estimated. A mixed logit model will be used for the final results, but because this is a computer-intensive routine, conditional logit will be used in initial data analysis. Most DCE papers continue to report both models, although the mixed logit is preferred for its superior econometric properties and less restrictive assumptions about unobserved information (Bridges et al., 2011). The mixed logit formally accounts for repeated choices by respondents and allows



for a distribution of tastes or preferences in the sample. (Similar statistical models are commonly used in related fields and are known as random parameters, random coefficients, or multilevel models.) The report will be written to be accessible to readers who are not specialists in econometrics. Table shells for the DCE portion of the report are included below as **Table A.16-2**, **Figure A.16-1**, and **Tables A.16-3**, **A.16-4**, and **A.16-5**.

The DCE design for this study is modeled on previous survey research and economic studies conducted by RTI. Specifically, the research design is based on OMB-approved stated-preference DCE surveys of health-related quality of life impacts for child maltreatment (OMB approval #0920-0930) and of physical activity programs for sedentary older adults (OMB approval #0920-0720).

DCE is a form of conjoint analysis, a method used to estimate the relative importance that respondents place on the different features of an individual product (e.g., for long-term care insurance, such features as length of coverage, daily benefit amount, or whether medical underwriting is required). DCE data provide a quantitative analytic framework which will be used to complement the more descriptive survey questions found in the first part of the survey. The DCE/conjoint method is used widely to understand respondents' choice behavior in marketing, transportation economics, environmental economics, and health care (Orme, 2009). The basic premise of DCE is that products or services can be characterized by a series of well-defined features or "attributes." In research studies, each attribute has a defined set of usually two to four levels or choices. (For example, three attributes describe a red westbound bus versus a blue eastbound train.) The attributes can be combined in ways that constitute hundreds or thousands of discrete alternative options.

In this study, our goal is to understand respondents' preferences about long-term care insurance to better understand what factors are more and less important to them. Therefore, we have developed a series of paired comparisons of alternative long-term care insurance plans. (Construction of the comparisons from thousands of possible combinations is described further under section B.2.) Respondents will be asked to both (1) compare two hypothetical long-term care insurance options and select which they prefer, and (2) make similar comparisons with an additional option of "neither." A particular strength of DCE compared to other stated preference survey methods is that by having survey participants select among concrete alternatives, the

reality of opportunity costs and choice constraints is formally imposed on respondents, as they are when people are actually faced with making a purchase choice. Respondents must be willing to “give up” some features of one alternative to select another and vice versa. In contrast, general or open-ended questions are typically not constrained and may elicit unrealistic estimates of preferences for features or participation.

The DCE section of the survey contains two sets of choice tasks. In the first set, respondents will evaluate plans described by a fuller set of attributes and levels, and will choose between plans A, B, and no insurance plan. In the second part, respondents will evaluate a smaller, reduced set of attributes in which the “no insurance” option is not available because everyone is required to have insurance. The same set of tables and figures will be developed for both DCE sets.

Out of the thousands of potentially different possible pairings that could be constructed and shown in the DCE, we will use best DCE practices from the literature to select a statistically efficient design. This enables us to minimize the burden on respondents by asking a small, efficient set of questions which include sufficient variety in plan features to enable interactions with respondent characteristics, are orthogonal (the comparisons are sufficiently uncorrelated to be statistically efficient and minimize standard errors in the estimation), and have minimal overlap (few plan features are the same across the two alternatives, ensuring that each question provides new information).

With DCEs, the pattern of choices made by a respondent provides the data for a statistical model of behavior, which will be analyzed using standard discrete choice econometric techniques (e.g., Train, 2009). The parameter estimates in the choice models indicate the relative importance to respondents of different features of long-term care insurance. Thus, the ratio of two parameters indicates the marginal rate of substitution between them—the rate at which respondents changed their selections when attribute levels were varied. For example, this study may find that respondents, on average, placed twice the importance weight on the benefit period as they do on the benefit level.

For long-term care insurance, virtually nothing is known in the academic literature about the relative importance of different insurance policy features. Thus, the first objective of the analysis will be to estimate choice models which fit the data (mixed and conditional logit), after

performing standard data quality checks for satisficing, dominant preferences, or other respondent heuristics (Louviere, Hensher, & Swait, 2000). We will report point estimates from the models and provide a visual representation of these findings, as shown in **Tables A.16-2** and **Figure A.16-1** below. The mixed logit model calculates both standard parameter estimates and the dispersion of “tastes” within the sample, so the standard deviations of the coefficients (not the standard errors) are also provided. **Table A-16.2** shows an example of the quantitative parameter estimates. These are largely of statistical interest and to show to other technical readers what are the “raw” results of the study. **Figure A.16-1** provides a simple visual depiction of importance weights for each attribute and attribute level, by scaling the parameter estimates in Table A-16.1 from least (0) to most (10) important. (The largest entry in **Table A-16.2** receives a 10 and the smallest receives a 0.) The figure shows at a glance which is the most and least preferred feature (attribute and attribute level) among the range shown to respondents. Furthermore, we can also see if there is a small or large distribution of the range of levels within an attribute. (In this example figure, there is relatively little difference in the type of insurer, but a large range in how preferred are the various daily benefit levels.)

With DCE data, a binary model is estimated in which the dependent variable (the selected alternative) is regressed against the various alternative insurance plan characteristics (attributes in Table A-16.1). The individual characteristics of a respondent (e.g., 50-year-old white female) are the same for all of the alternatives considered for a given respondent, so parameter estimates for these individual characteristics (e.g., age and race) “cancel out” and are not estimable in discrete choice models. However, we are interested in knowing if preferences for features of long-term care insurance plans and if the relative interest in being insured versus not being insured varies by sociodemographic characteristics. Following standard DCE practice (Louviere, Hensher, & Swait, 2000), we will estimate additional choice models in which respondent characteristics are interacted with an “opt-out” binary indicator term for choosing no long-term care insurance plan. These models show whether respondents with certain personal characteristics (e.g., age, race, risk preference) or attitudes (e.g., view long-term care financing as a personal responsibility) have a greater or lower propensity for purchasing insurance or opting out. Results for such a model would be shown in **Table A.16-3**. Although not shown in the table, other insurance features can also be interacted with individual characteristics to assess variation in preferences among the sample. For example, an interaction of female\*benefit\_period

would show whether women have a stronger preference for the benefit period than men, or vice versa, or whether there is no difference in the sample. Such information can help identify which features are most desired by which types of respondents.

Next, the logit estimates of discrete choice data (McFadden, 1974) can be used to estimate the predicted probabilities, or shares, of different choices among a series of defined alternatives. (For example, if three lengths of coverage—1 year, 3 years, and 5 years—are available what proportion of persons will pick each type?) This can either be a relative comparison, conditional on being “in the market,” or if an “opt-out” (no purchase) alternative is included, the estimated probabilities will reflect that of choosing among one or more options versus a no-insurance alternative. We plan to use the parameter estimates from **Table A.16-2** in estimating a series of predicted comparisons such as shown in **Table A.16-4**. Specifically, the logit functional form is based on a Type I extreme value probability density function, which is parameterized with the values from **Table A.16-2** and any set of hypothetical comparisons that we desire to make. For example, consider the case of three alternatives: Plan A, Plan B, and No Insurance. Plans A and B are characterized by a defined set of features based on the attributes in the model, while No Insurance is captured simply by the “opt-out” term from the statistical model. When the plan features for each are entered in the statistical model, the logit functional form returns a predicted choice share, which is constrained to sum up to 1.0 across the alternatives. We may find that A, B, and No Insurance are estimated to be selected by 45 percent, 15 percent, and 40 percent of the sample. A different set of alternatives (C, D, and No Insurance) may be more or less desirable and return a different set of choice shares. Although we cannot use the model to predict any one person’s choice behavior, on average, the statistical choice shares from DCE data and a logit functional form have been shown to closely approximate observed behavior (Train, 2009).

Finally, a common application of DCE data is to scale the relative preference weights in monetary-equivalent estimates of benefit or “willingness to pay.” In economics terminology, these estimates do not necessarily represent what an individual is actually “willing” to pay, but rather, reflects the total economic value or utility from consumption that is received. This is a standard measure of social welfare and benefit which is widely accepted as appropriate for economic evaluation. This information can be measured in two ways. One is as the average dollar value of a feature (attribute), holding other factors constant. This information indicates the

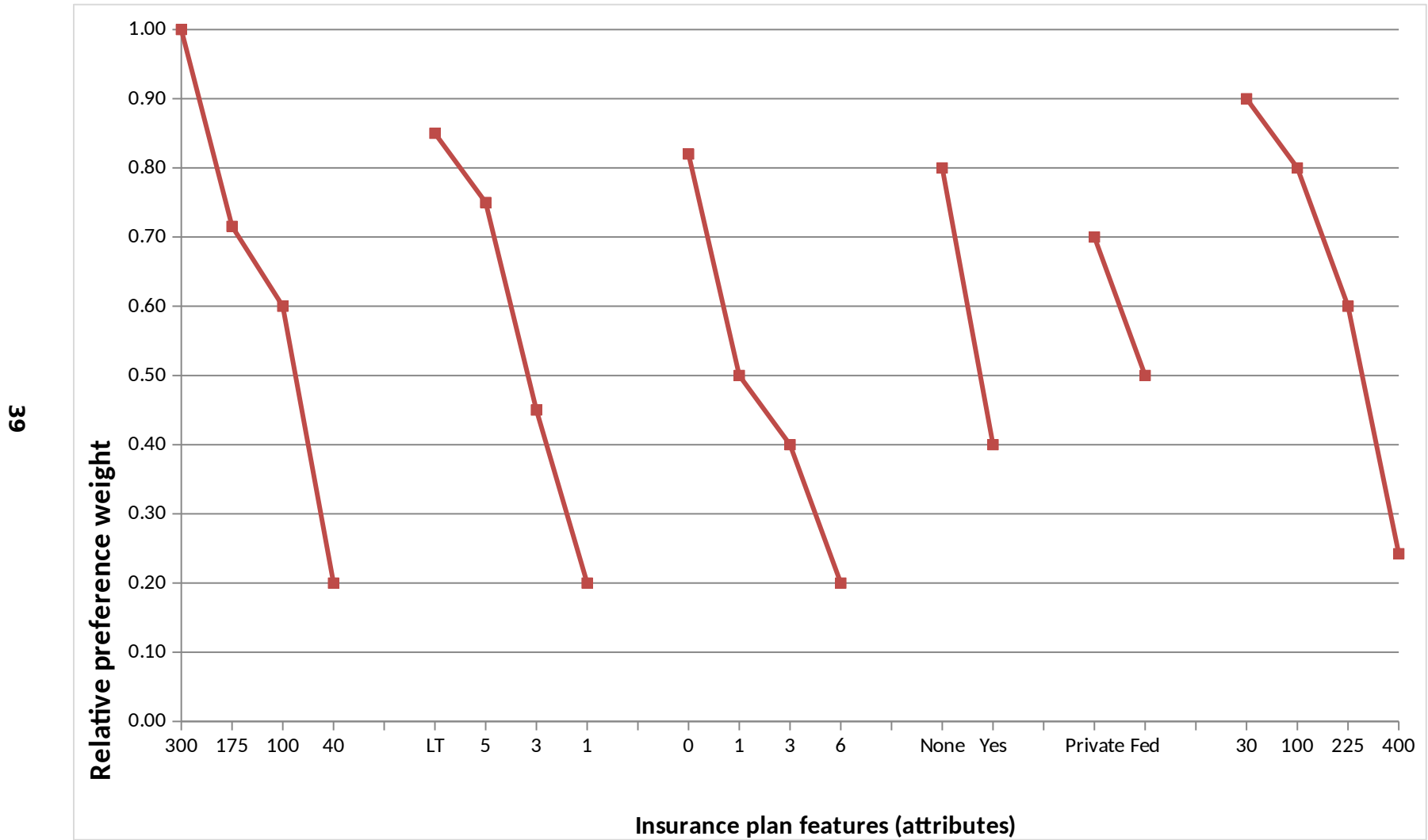
marginal utility in dollars of a particular feature, calculated as the ratio of the parameter estimate for one attribute divided by the parameter estimate for a cost attribute measured in dollars (Louviere, Hensher, & Swait, 2000). Although widely reported, it is not possible to “consume” a single plan feature in isolation—one can only achieve this utility by consuming a full insurance plan. A second way to report this information is as the average total value in dollars for a complete insurance plan, based on a specific set of plan characteristics, as with the choice shares in the preceding paragraph. Specifically, we may find that Plan A has an estimated total utility in dollars (monetary-equivalent benefit) of \$X, and Plan B has an estimated total utility of \$Y. This information provides a way to identify plans with higher or lower total benefit, and how much value these plans provide to individuals. How we expect to report this information is shown in *Table A.16-5*.

**Table A.16-2. Estimated coefficients (relative preference parameters) from logit models of the discrete choice experiment data**

Attribute/Level	Conditional Logit Regression	95% Confidence Interval	Mixed Logit Regression	95% Confidence Interval
<b>Daily Benefit</b>				
\$50/day (omitted)				
\$100/day				
\$175/day				
\$300/day				
<b>Benefit Period</b>				
1 year (omitted)				
3 years				
5 years				
Lifetime				
<b>Deductible Period</b>				
6 months (omitted)				
3 months				
1 month				
None				
<b>Health Requirements</b>				
Healthy, not disabled (omitted)				
None				
<b>Type of Insurer</b>				
Federal government (omitted)				
Private insurer				
<b>Premium</b>				
\$400 (omitted)				
\$225				
\$100				
\$30				

Also reported: log-likelihood, pseudo  $R^2$ , chi-square statistic, significance levels (\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ).

**Figure A.16-1. Example estimates of relative importance of long-term care insurance features**



Note: Hypothetical estimates shown. Confidence intervals will be added in final presentation.

**Table A.16-3. Interacted choice model for analysis of individual effects and preferences for insurance features**

<b>Attribute/Level</b>	<b>Conditional Logit Regression Coefficients</b>	<b>95% Confidence Interval</b>	<b>Mixed Logit Regression Coefficients</b>	<b>95% Confidence Interval</b>
<b>Daily Benefit</b>				
\$50/day (omitted)				
\$100/day				
\$175/day				
\$300/day				
<b>Benefit Period</b>				
1 year (omitted)				
3 years				
5 years				
Lifetime				
<b>Deductible Period</b>				
6 months (omitted)				
3 months				
1 month				
None				
<b>Health Requirements</b>				
Healthy, not disabled (omitted)				
None				
<b>Type of Insurer</b>				
Federal government (omitted)				
Private insurer				
<b>Premium</b>				
\$400 (omitted)				
\$225				
\$100				
\$30				

(continued)



**Table A.16-3. Interacted choice model for analysis of individual effects and preferences for insurance features (continued)**

Attribute/Level	Conditional Logit Regression Coefficients	95% Confidence Interval	Mixed Logit Regression Coefficients	95% Confidence Interval
<b>Opt-out (no insurance)</b>				
Interactions:				
Optout*				
Optout*age				
Optout*male				
Optout*assets				
Optout*income				
Optout*children				
Optout*martial status				
Optout*health status				
Optout*risk aversion				
Optout*geographic indicators				
Optout*urban-rural				

Also reported: log-likelihood, pseudo R<sup>2</sup>, chi-square statistic, significance levels (\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ).

**Table A.16-4. Estimated choice shares for alternative long-term care insurance options**

Scenario	Predicted Uptake Share (%) from Mixed Logit Model	95% Confidence Interval
Plan 1 vs. 2 1 = ... 2 = ...		
Plan 1 vs. 2 vs. no plan 1 = ... 2 = ... No plan		
Plan 1 vs. 2 vs. 3 1 = ... 2 = ... 3 = ...		
Plan 1 vs. 2 vs. 3 vs. no plan 1 = ... 2 = ... 3 = ... No plan		

Note: Plans are defined based on a specific set of levels for each attribute in the DCE.

**Table A.16-5. Relative value estimates for various long-term care insurance features and plans**

Feature	Relative Value Estimate from Mixed Logit Model	95% Confidence Interval
<b>Daily Benefit</b>		
\$50/day (omitted)		
\$100/day		
\$175/day		
\$300/day		
<b>Benefit Period</b>		
1 year (omitted)		
3 years		
5 years		
Lifetime		
<b>Deductible Period</b>		
6 months (omitted)		
3 months		
1 month		
None		
<b>Health Requirements</b>		
Healthy, not disabled (omitted)		
None		
<b>Type of Insurer</b>		
Federal government (omitted)		
Private insurer		
<b>Premium</b>		
\$400 (omitted)		
\$225		
\$100		
\$30		
<b>Plan</b>	<b>Relative Value Estimates from Mixed Logit Model</b>	<b>95% Confidence Interval</b>
1 =		
2 =		
3 =		

Note: Plans are defined based on a specific set of levels for each attribute in the DCE.

**A.17 Reasons Display of OMB Expiration Date is Inappropriate**

Display of OMB expiration date is appropriate in this information collection. The expiration date will be prominently displayed at the introduction screen to the survey.

**A.18 Exceptions to Certification for Paperwork Reduction Act Submissions**

There are no exceptions to the certification for this information collection.

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**Attachments**