Retiree Out-of-Pocket Health Care Spending

A Study of Expert Views, Consumer Expectations, and Policy Implications

ALLISON K. HOFFMAN AND HOWELL E. JACKSON

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RETIREE OUT-OF-POCKET HEALTH CARE SPENDING: A STUDY OF EXPERT VIEWS, CONSUMER EXPECTATIONS, AND POLICY IMPLICATIONS

Allison K. Hoffman, Assistant Professor of Law, UCLA School of Law

&

Howell E. Jackson, James S. Reid, Jr., Professor of Law, Harvard Law School

Even though most American retirees benefit from Medicare coverage, a mounting body of research predicts many will face large and increasing out-of-pocket expenditures for health care costs in retirement and that many struggle to finance these costs. It is unclear, however, whether the general population understands the likely magnitude of these out-of-pocket expenditures. Without an adequate understanding of such expenditures, Americans – even those with the financial resources to do so during their working years – are unlikely to plan effectively for retiree health care costs and may therefore face unanticipated financial stress in retirement.

This study is the first comprehensive examination of Americans’ expectations regarding their out-of-pocket health care spending in retirement. We surveyed over 1700 near retirees and retirees to assess their expectations regarding their own spending and then compared their responses to experts’ estimates. While a significant proportion of respondents estimated out-of-pocket health care costs in retirement at or above the level that health care experts predict for the typical retiree, a disproportionate number estimated costs at levels substantially below what experts view as likely. Moreover, the estimates of certain demographic subgroups deviate further from experts’ estimates, suggesting that some Americans, including women and younger respondents, may be especially vulnerable to unanticipated health care costs in retirement. Even more striking, most respondents misjudged spending uncertainty – the variability in expenditures from one retiree to another or over time, which will cause some individuals to incur substantially higher costs than what experts now predict for the typical retiree. In particular, respondents significantly underestimated how much personal health experience and changes in government policy can affect individual out-of-pocket spending. We conclude with a discussion of possible policy responses to our findings, focused on improving financial planning and reducing risk through health insurance regulation, as well as implications for Medicare reform proposals.

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I. Introduction

Our current system for retiree health care increasingly relies on seniors to finance significant health care expenditures over their retirement. Even though most will benefit from Medicare coverage, Medicare pays for only about 60 percent of retiree health care costs and, on its own, has no limit on out-of-pocket spending. Supplemental insurance is available to cover what Medicare does not, but can be expensive and still leave some coverage gaps. Recent estimates are that the median Medicare beneficiary spends about 16 percent of income on “out-of-pocket” health care spending (premiums and direct payments for cost sharing and uninsured care). Low-income retirees (those earning under $13,400), retirees in fair or poor health, or those over 85 years old spend as much as one third of their annual income on such costs.

Retirees’ role in managing health care expenditures will only grow as the cost of medical care increases, employer sponsored retiree health care disappears, and insurance shifts in form from defined benefit to defined compensation. Experts project health care spending will continue to consume a larger share of retirees’ disposable income, as much as 50 percent of post-tax income for some retirees by 2030, even without major changes to Medicare or Medicaid. And as health care spending for retirees also comprises an increasing share of the Gross Domestic Product (GDP) and of federal budget dollars, politicians and industry leaders necessarily search for ways to limit health care spending. Some propose shifting more costs onto the elderly through their out-of-pocket contributions to health care, by raising premiums for insurance coverage, increasing direct cost-sharing (including higher deductibles, copayments, and coinsurance), or reducing services covered by insurance.

1 Paul Fronstin et al., Funding Savings Needed for Health Expenses For Persons Eligible for Medicare 3, EBRI Issue Brief (2010) [hereinafter Fronstin et al. 2010] (showing 64% of total costs for non-institutionalized population financed by Medicare).
3 Fronstin et al., supra note 1, at 4 (citing variation in Plan F premium amounts across states).
5 ELIOT FISHMAN ET AL., THE COMMONWEALTH FUND, MEDICARE OUT-OF-POCKET COSTS: CAN PRIVATE SAVINGS INCENTIVES SOLVE THE PROBLEM viii (2008) (defining “low income” as earning under 135% of the federal poverty level, which in the 2007 data used for this article was $9,944).
6 Id. at 1-2 (reporting that by 2040 half of adults 65 and older will spend 19% of income or more on health care up from 10% in 2010 and that those in the bottom income quintile could spend as much as 50% of income on health care by 2030). See also, e.g., Jonathan Gruber & Helen Levy, The Evolution of Medical Spending Risk, 23 J. ECON. PERSPECTIVES 25, 37 (2009) (showing that even though retirees are paying a constant share of their total health care costs, these costs are nonetheless growing as a percent of income); ALICIA H. MUNNELL ET AL., CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE, HEALTHCARE COSTS DRIVE UP THE NATIONAL RETIREMENT RISK INDEX (February 2008) (showing that health care spending is driving growth in risk for retirees) [hereinafter MUNNELL ET AL., 2008]; KFF CHARTBOOK, supra note 4, at 72 (showing growth of out-of-pocket costs as a percent of income from 11.9 to 16.2 from 1997 to 2006).
8 See discussion infra notes 132 to 133 and accompanying text.
Even under current conditions, prior studies show that retirees are already struggling in the face of large, uncertain, and increasing out-of-pocket costs.\(^9\) Based on various measures of financial distress, these studies suggest that retirees increasingly struggle to finance health care expenditures.\(^{10}\) But none of these studies has offered a systemic treatment of why individuals are unprepared for retiree health care costs.

While the reasons are likely multifaceted, one reason could be that many individuals do not understand the magnitude of future health care costs.\(^{11}\) Awareness of costs is a necessary (albeit not sufficient) condition of planning for future spending. We know Americans care deeply about accessing health care when they need it, and studies show that health care expenditures drive savings by the elderly, even more than the bequest motive does.\(^{12}\) Furthermore, financial literacy research has shown that one driver of inadequate overall retirement savings is a knowledge gap\(^{13}\) and that people with more complete...
information,\textsuperscript{14} and adequate financial literacy to interpret it,\textsuperscript{15} plan better for retirement. This research on financial literacy has motivated legal reforms to require better financial education or disclosure,\textsuperscript{16} as well as support for regulatory approaches that use default rules or incentives to induce people to save more, despite imperfect knowledge and financial literacy challenges.\textsuperscript{17} In the context of out-of-pocket health care expenditures during retirement, it is unclear, however, how much people know about their likely expenditures and to what degree ignorance might impede successful retirement planning.

Compared to deciphering credit card terms or mortgage options, estimating individual retiree health care costs is much more complex, as anyone who has tried to puzzle through the options for supplemental coverage knows well. The few studies that examine perceptions of potential future insurance coverage and costs suggest confusion exists. For example, one study found more workers expect to receive retiree health benefits through a current employer than is likely.\textsuperscript{18} Another study reported workers’ projections of their total needs for retirement seem not to take health care costs into account and, despite such omission, nearly half say they are confident that they will have enough money

\textsuperscript{14} E.g., Gopi Shah Goda et al., \textit{What Will My Account Really Be Worth? An Experiment on Exponential Growth Bias and Retirement Saving}, NBER Working Paper 17927 3 (2012) ("providing income projections along with general plan information and materials assisting people through the steps of changing contribution rates resulted in a 29 percent higher probability of a change in contributions relative to a control group over a six-month period. In addition, individuals sent this treatment increased their annual contributions by $85 more than the control group during the study period."); James J. Choi et al., \textit{Small Cues Change Savings Choices}, NBER Working Paper 17843 2-3 (showing use of anchor savings goals or education about 410k savings limits leads to increased savings for members of a defined-contribution plan of a large technology company).

\textsuperscript{15} Annamaria Lusardi & Olivia S. Mitchell, \textit{Financial Literacy and Retirement Planning in the United States} 10 J. PENSION ECON. & FIN. 517, 523 (2011) ("it appears that financial literacy does drive retirement planning."). Annamaria Lusardi & Olivia S. Mitchell, Financial Literacy and Retirement Planning: New Evidence from the Rand American Life Panel 19 (2007) (draft manuscript on file with author) ("By every measure, and in every sample we have examined, we conclude that financial literacy is a key determinant of retirement planning.").

\textsuperscript{16} For example, section 1013(g) of the Dodd-Frank Act for Wall Street Reform and Consumer Protection calls for the creation of an Office of Financial Protection for Older American with a charge that includes research into best practices to educate about long-term savings and planning for retirement and long-term care. The Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub.L. 111-203 (2010). Governmental agencies, including Health and Human Services, are invested in improving financial and health literacy. \textit{AMERICAN INSTITUTES FOR RESEARCH, CONSUMER EDUCATION INITIATIVES IN FINANCIAL AND HEALTH LITERACY} 3 (2010) ("These challenging times have created an increasing awareness that a lack of financial and health literacy can serve as a major barrier to the well-being of individual families and communities. … a number of agencies have attempted to improve financial and health literacy.").


\textsuperscript{18} Paul Fronstin et al., \textit{Savings Needed to Fund Health Insurance and Healthcare Expenses in Retirement: Findings from a Simulation Model}, Employee Benefit Research Institute Issue Brief No. 317 23 (May 2008) (estimates based on the frequency of availability of such benefits in the U.S., as compared to the proportion of individuals who said they expect them) [hereinafter Fronstin et al. 2008].
to pay for medical expenses in retirement.\textsuperscript{19} Prior studies also suggest that individuals have only low to moderate levels of understanding about Medicare, the foundation of most Americans' retiree health care.\textsuperscript{20}

This project is the first to examine comprehensively what people understand about their likely future health care spending – and, impliedly, to what degree ignorance might impede retirement planning. We asked over 1700 individuals in the Rand American Life Panel, who are approaching and already in retirement,\textsuperscript{21} to estimate out-of-pocket health care expenditures they are likely to face in retirement and compared their estimates to experts’ estimates. We sought to identify both whether respondents’ estimates deviated from experts estimates and what aspects of their estimates deviate more or less. We report the results in Part III.

An individual must consider several dimensions to estimate his or her future health care expenditures accurately. First, he or she must have a sense of what the median, or typical, person spends. Even this first-level estimate requires understanding likely future insurance coverage, premium spending, cost-sharing, and life expectancy. We examined estimates on each of these separate dimensions and with regard to total out-of-pocket spending, estimated both on a monthly and lifetime basis. Our starting hypothesis was that individual estimates of retiree health care out-of-pocket costs would, in general, fall well beneath expert estimates. We were wrong, at least in some regards. Respondents estimated certain determinants of costs, including likely future insurance coverage, premiums, and life expectancy at levels surprisingly close to what experts predict. For example, median respondent estimates of premium costs for Medicare and supplemental coverage were at most 25% below the range of actual costs. With regard to total monthly out-of-pocket spending (premium costs plus costs for health care), over 40% of respondents estimates were at or above the median expert estimate of annual spending. These results suggest that a significant portion of the population understands approximate future resources needed to sustain typical health care expenses and that lack of understanding, alone, does not explain financial planning challenges. (In this study, we did not explore the important related question of whether individual expectations correlate to actual savings for those expenses.)

However, there was also evidence of underestimation in the overall population. In terms of monthly spending estimates, the median respondent’s response was over a quarter below expert median estimates and half of respondents’ cost estimates fell below the expert 25\textsuperscript{th} percentile estimate. In other words, we see a bimodal distribution of responses – with a substantial fraction of estimates above the median and the other half of responses below the 25\textsuperscript{th} percentile expert estimates. Younger cohorts tended to offer estimates similar to those of older cohorts, raising potential concerns that younger respondents may not be anticipating the kinds of increases in health care expenditures that experts predict.

\textsuperscript{19}Ruth Helman, et al., The 2011 Retirement Confidence Survey: Confidence Drops to Record Lows, Reflecting “the New Normal” Employee Benefit Research Institute Issue Brief No. 355 10 (March 2011) (48% of workers are very or somewhat confident of having enough to pay for medical expenses in retirement).
\textsuperscript{20}Lauren McCormack, et al., Health Insurance Literacy of Older Adults, 43 J. CONSUMER AFF. 223, 240 (2009) (“Our analyses showed that overall levels of health insurance literacy, as measured by this specific instrument, are low to moderate, with beneficiaries averaging a score of just over 70% correct on each of the two indices.”); BANKERS LIFE AND CASUALTY COMPANY, CENTER FOR A SECURE RETIREMENT, RETIREMENT HEALTHCARE FOR MIDDLE-INCOME AMERICANS 18-21 (January 2012) (showing that middle-age Americans and near retirees are largely unaware of the benefits and coverage available in the Medicare program and what is not covered, including vision, dental, and most long-term care benefits).
\textsuperscript{21}Our response rate was over 80 percent. See discussion infra Part III.
for the coming decades. While interpretation of this result is ambiguous, as discussed below, it may suggest that problems of unanticipated financial insecurity will worsen over time.

Second, beyond understanding typical overall spending, an individual should ideally have a sense of what a person with similar predictive attributes spends (e.g., a woman in good health with retiree supplemental insurance coverage through her employer). Such demographic factors can predict about 20-25 percent of the variance in spending among members of a population.\textsuperscript{22} In analyzing our survey results, we attempted to explore the extent to which respondent estimates correlated with factors that experts have found to be associated with higher retiree health care costs and found mixed results. While respondent estimates of costs were positively associated with household income levels (a factor experts associate with higher expenditures) and some factors associated with financial literacy and corresponded appropriately with anticipated insurance coverage, women in our survey seemed to underestimate lifetime spending. Women respondents projected 50 percent lower lifetime expenditures ($30,000 median estimate) than their male counterparts ($60,000 median estimates), despite experts’ estimates that the typical woman will spend fifty percent more over her retirement than the typical man.\textsuperscript{23}

Finally, individuals would ideally understand that future health care spending is uncertain in ways that could cause any one person’s expenditures to exceed current expert estimates for a typical retiree. Here, we saw broad misperceptions. Spending uncertainty arises from three main sources: unpredictable individual health experience, unexpected medical cost growth, or policy instability. The distribution of medical spending among retirees is highly skewed and largely unpredictable.\textsuperscript{24} Someone with extensive medical needs or the fortune to live a long life may spend two to three times as much as the typical retiree.\textsuperscript{25} Further, future out-of-pocket exposure, even for the typical retiree, depends on the rate of future health care inflation, which has outpaced economic growth for a number of years\textsuperscript{26} and may continue to do so.\textsuperscript{27} Finally, the future of policies regarding Medicare, Medicaid, and private retiree insurance coverage is in flux. Even if policies remain stable, the effects of the 2010 health reform law, the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act of 2010 (HCERA) (collectively referred to herein as “PPACA”)\textsuperscript{28} on out-of-pocket spending are uncertain.

In contrast to the mixed findings above with regard to typical expenditures, our respondents consistently did not seem to understand spending uncertainty and the potential impact on their individual spending. They failed to differentiate between the three above sources of uncertainty, which pose very

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\textsuperscript{22} Joe Newhouse, \textit{Reimbursing Health Plans and Health Providers: Efficiency in Production Versus Selection}, 34 J. Econ. Lit. 1236, 1256 (1996).

\textsuperscript{23} Fronstin et al. 2010, \textit{supra} note 1..


\textsuperscript{25} See \textit{infra} notes 120-123 and accompanying text.

\textsuperscript{26} \textsc{Congressional Budget Office}, \textsc{CBO’s 2010 Long-Term Budget Outlook} 27 (reporting that from 1975-2008, excess cost growth in Medicare was 2.5%, in Medicaid was 2.0%, in all other was 1.8%, and overall was 1.9%).

\textsuperscript{27} This inflation is often called “excess cost growth” defined as the increase in health care spending per person over the growth of GDP per person, adjusted for demographic changes in the population that might affect health care spending.

different levels of risk. Furthermore, they underestimated the potential effect, in particular, of personal health experience, which can result in having double to triple expenditures of the typical retiree; only a fifth of all respondents estimated that adverse personal health experience could lead to a more than 50 percent increase in out-of-pocket costs. To oversimplify, some people know costs; few know risk.

These findings suggest several potential interventions, which we discuss in Part IV. While our findings do not point to any one particular solution, they help to sharpen the problem definition and identify what future research would be most useful and what solutions might be more promising than others. It appears that ignorance of the magnitude of retiree out-of-pocket health care expenditures may explain some – but not all – of the financial insecurity some retirees face. We discuss the potential for targeted interventions to improve financial planning, especially for those subgroups whose estimates were farthest from expert estimates. Perhaps the more pervasive problem we uncovered with regard to Americans’ understanding of future out-of-pocket health care expenditures is a significant misapprehension of spending uncertainty. This shortcoming demands regulatory and policy reforms aimed at insurance to ensure that Medicare or supplemental insurance sufficiently support retirees’ financial security in the face of spending uncertainty, even when retirees fail to grasp the magnitude of this uncertainty themselves.

29 See infra notes 120-123 and accompanying text.
30 Of course, our study serves to take one possible explanation off the table; further research is necessary to understand what might be driving shortfalls.
II. Expert Estimates of Retiree Out-of-Pocket Health Care Expenditures

A. Background on Out-of-Pocket Expenditures

Retiree out-of-pocket health care expenditures include any amount the retiree pays directly for health care. These expenditures include two categories of costs: (1) premium costs for insurance coverage (Medicare and supplemental insurance policies) and (2) expenditures for services or items paid for directly by the insured, which includes cost-sharing (deductibles, co-payments, and coinsurance required by Medicare or a supplemental policy) and expenses for care that is not covered by insurance (e.g., dental care under many policies).

Retirees must determine how to piece together Medicare coverage and supplemental coverage to best meet their needs, which requires navigating a complex landscape of coverage options and tradeoffs. Over half of total health care costs are financed by Medicare for about 39 million eligible individuals age 65 and older. Original or “fee-for-service” Medicare is composed of two parts: Part A for hospital and inpatient care as well as some home health care and Part B Supplementary Medical Insurance primarily for outpatient care. For most, enrollment in Part A is automatic and free. Beneficiaries pay a monthly premium to enroll in Part B, which began at $115.40 in 2011 for the standard premiums and increased on a sliding scale based on income. Low-income enrollees (under 133 percent of the Federal Poverty Level (FPL)) with limited assets ($6,880 for an individual or $10,020 for a couple) are eligible for the Medicare Savings Program (MSP), which defrays all or part of their Medicare premiums and cost-sharing obligations. While an estimated 3.6 million are eligible, under 1/3 of those eligible for MSPs enroll, which we discuss further in Part IV below.

31 See also KFF CHARTBOOK, supra note 4, at 70 (reporting 48% for Medicare fee-for-service beneficiaries, who will have a lower percent financed than the excluded Medicare Advantage beneficiaries).
33 KFF CHARTBOOK, supra note 4, at 22. Part A is premium-free if an individual or spouse worked 40 or more quarters of Medicare-covered employment, where they contributed Medicare payroll taxes. Medicare.gov, Medicare Premiums and Coinsurance Rates for 2011, (Nov. 5, 2010), at http://questions.medicare.gov/app/answers/detail/a_id/2305/kw/coinsurance.
34 KFF CHARTBOOK, supra note 4, at 22.
35 Gretchen Jacobson et al., Kaiser Family Foundation, The Role of Medicare for People Dually Eligible for Medicare and Medicaid 9-10 (2011) (describing how Medicaid defrays premiums or cost sharing for Qualified Medicare Beneficiaries (QMBs), who must earn under 100% of the FPL to receive assistance with Medicare premiums and cost-sharing; Specified Low-Income Medicare Beneficiaries (SLMBs), who have incomes between 100 and 120% of the FPL and are eligible for assistance with Medicare Part B premiums; and Qualified Individuals (QIs), who earn between 120-135% of the FPL and receive assistance with premiums in limited circumstances. To qualify for any of these programs, a beneficiary must have assets at or below $6,880 for an individual or $10,020 for a couple in 2011.) For reference, in 2012, the FPL is just over $11,000 for an individual and just over $15,000 for a couple. U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, 2012 HHS POVERTY GUIDELINES, at http://aspe.hhs.gov/poverty/12poverty.shtml.
36 Stan Dorn & Boaping Shang, Spurring Enrollment In Medicare Savings Programs Through A Substitute For The Asset Test Focused On Investment Income, 31 Health Affairs 367, 368-370 (estimating current eligibility in three MSPs as 13% for SLMB, 19% for QI, and 33% for QMB and estimating 3.6 Million eligible based on Medicare

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Medicare subjects enrollees to potentially high out-of-pocket spending with no out-of-pocket spending limits. For example, in 2012, Part A includes a deductible of $1,156 per hospitalization. For hospital stays longer than 60 days, beneficiaries have cost sharing of $289 per day for days 61-90, $578 per day for days 91-150, and no coverage after 150 days. For Part B, beneficiaries pay a $140 deductible and 20% coinsurance per visit. There is also significant cost sharing and limited coverage for skilled nursing. Retirees must finance these costs not covered by Medicare by purchasing insurance coverage supplemental to Medicare or by paying directly for such costs.

Ninety percent of all retirees obtain supplemental insurance coverage, from one of four main sources, to help fill in these gaps. For those without supplemental coverage through an employer, choosing a supplemental policy among the many options is complex and also high stakes because out-of-pocket spending can vary significantly, based on the supplemental coverage an individual has. About one-third of Medicare beneficiaries currently have supplemental employer-sponsored insurance (ESI) for retirees, usually subsidized by the employer. ESI generally provides comprehensive coverage at a relatively low cost to retirees (average premiums of $2000 in 2006), but is becoming less frequently available as employers drop retiree coverage.

beneficiary counts). They explain low eligibility as due in part to the application process, including a “burdensome” asset test and recommend replacing the asset test with an investment income test. Id at 368-69.


38 Id.
39 Id.
40 Id.
41 Id.
42 KFF CHARTBOOK, supra note 4, at 60. While we use this data as a benchmark, it does not perfectly reflect frequency of forms of supplemental coverage among retirees for two reasons. First, it includes non-elderly disabled on Medicare. Second, KFF only listed one form of supplemental coverage for each individual according to the following hierarchy: “1) Medicare Advantage, 2) Medicaid, 3) Employer, 4) Medigap, 5) Other public/private coverage, 6) No supplemental coverage. Individuals with more than one source of coverage were assigned to the category that appears highest in the ordering.” This methodology will underestimate forms of supplemental coverage lower in the hierarchy, such as “other public/private.”

43 Those with Medigap supplemental coverage face the greatest total out-of-pocket exposure (more even than those with no supplemental coverage, who are spared premium costs and may consume less care than they would otherwise). In contrast, those with Medicaid are likely to spend much less out of pocket, due to the low premiums and cost-sharing obligations and possibly also due to consumption constraints. Goldman & Zissimopoulos, supra note , at 198; KFF CHARTBOOK, supra note 4, at 72. Including residential long-term care, Kaiser reports average out-of-pocket spending in 2006 of $5,066 for a beneficiary with supplemental Medigap, $4,275 with supplemental ESI, $3,979 with no supplemental coverage, $3,518 with Medicare Advantage, and $2,843 with Medicaid. KFF CHARTBOOK, supra note 4, at 72. Another study, based on 2005 MCBS data (prior to Medicare Part D) and also including long-term care spending reports median spending of $3,819 for a beneficiary with supplemental Medigap, $2,909 with ESI, $2,258 for Medicare Advantage, $1,864 with no supplemental coverage, and $490 with Medicaid. Neuman et al., supra note 103, at 2. This variability persists with regard to total lifetime spending. Fronstin et al. 2010, supra note 31, at 9 (estimating median spending of $65,000 for a man with wraparound Medicare coverage, $66,000 for ESI coverage that an employer subsidizes, and $109,000 for unsubsidized ESI coverage).

44 KFF CHARTBOOK, supra note 4, at 60.
45 Id. at 60.
46 See Fronstin et al. 2008, supra note 18 (projecting an increasing decline of retiree ESI in the future); The percentage of private-sector employers offering coverage to Medicare-eligible retirees decreased from 21.6 percent in 1987 to 12.7 percent in 2005. Fronstin et al. 2008, supra note 18, at 12. Some attribute this decline to a 1990 rule by the Financial Accounting Standards Board that required employers to report retiree health liabilities in annual
Advantage (also known as Medicare Part C), instead of fee-for-service Medicare.47 Some pay an additional monthly premium on top of the Part B premium (others plans are “zero premium”) for an approved private insurance policy that combines the benefits of Part A and B, usually Part D prescription drug coverage (discussed below), and sometimes dental or vision coverage.48 In 2011, the Centers for Medicare and Medicaid Services limited the out-of-pocket spending on Medicare Advantage plans to $6700.49 An additional 17 percent of beneficiaries buy a supplemental “Medigap” policy from a private insurer.50 Medigap plans are standardized by plan type, organized alphabetically from A-N. Although these plans often have high premium costs, most offer first-dollar coverage of many or all of the costs not covered by Medicare, leading to criticism that they invite moral hazard.51 The most popular plans (Plans C and F) cover nearly all costs that Medicare does not; some Plan F beneficiaries opt for a “high deductible” option where they pay the first $2000 in expenditures, after which the Medigap plan covers all costs.52 Premiums for these plans vary by plan type and by state and can range from under $100 to over $400 per month.53 Finally, about 15-16 percent of Medicare beneficiaries are “dually eligible” for Medicaid if they are disabled or meet the income and assets thresholds, which differ state by state, in which case they pay little or no premiums and cost-sharing.54 While variable across states, these thresholds are low across the board,55 which means that Medicaid coverage only protects a subset of the poorest retirees against significant out-of-pocket exposure.

47 KFF CHARTBOOK, supra note 4, at 60. Medicare Advantage (Part C), Medicare.gov, http://www.medicare.gov/navigation/medicare-basics/medicare-benefits/part-c.aspx (last visited June 3, 2011). The average premium in 2011 was $43, based on the cost of plans with prescription drug coverage. Medicare Advantage providers often receive government rebates, based on plan cost savings over traditional Medicare, which they can use to provide additional services or reduce premiums. Id. at 12

48 KFF CHARTBOOK, supra note 4, at 60 (2010). Medigap policies typically do not cover long-term care, vision, dental, hearing aids, or private nursing care. Id. at 12

49 Id. at 11. Even when employers offer ESI, it has become more expensive and less widely available to retirees. Id. at 14. THE HENRY J. KAISER FAMILY FOUNDATION AND HEWITT, FINDINGS FROM KAISER/HEWITT 2006 SURVEY ON RETIREE HEALTH BENEFITS 19-20 (2006).

50 Id. at 12

51 Baicker and Levy, supra note 2, at 1773-1774. PPACA directs the Secretary of Health and Human services to work with the National Association of Insurance Commissioners to review Medigap Plans C and F to include nominal cost sharing to reduce usage of Medicare Part B physician services. PPACA § 3210.


54 Id. at 8

55 For example, a majority of states are required by federal Medicaid participation rules to provide full Medicaid dual eligibility to those who meet the Supplemental Security Income (SSI) Program income and asset limits, which for an individual is income under 75 percent of the FPL and assets under $2000. Jacobson et al., supra note 35, at 8.
Ninety percent of Medicare enrollees also have a source of supplemental prescription drug coverage, mostly under the Medicare Part D prescription drug benefit, which took effect in 2006 as established by the Medicare Modernization Act. In 2010, about 60 percent had a Medicare Part D plan for prescription drugs, nearly 20 percent had coverage through an ESI retiree plan, and 13 percent had some other coverage. In 2012, after $4700 in out-of-pocket spending on prescription drugs, a beneficiary has “catastrophic coverage,” where the plan pays 95% of additional costs.

Even with supplemental insurance for medical and prescription drug expenses, retirees face out-of-pocket expenses for cost-sharing obligations and for items or services not covered by Medicare or supplemental coverage. And, of course, they are subject to premiums for Medicare and supplemental coverage, as described above. According to one study, based on 2006 data, the major components of out-of-pocket spending were: premiums (39%); long-term care (19%); medical providers and supplies (15%); prescription drugs (14%); dental (6%); and inpatient and outpatient hospital costs (5%). Excluding long-term care costs from this data, premiums comprise nearly 50% of remaining total costs, medical provider and supplies 19% and prescription drugs 17%. Out-of-pocket exposure to prescription drug costs will decrease for some beneficiaries with PPACA’s closing of the “donut hole,” as discussed below, but is still a major component of retiree expenditures. On average, across all forms of supplemental coverage, the costs of premiums tend to comprise between 40-60 percent of total out-of-pocket expenses, and cost-sharing and costs of uncovered health care makes up the rest. As described in more detail below, respondents estimated what forms of retirees coverage they anticipated holding and we evaluated both those expectations and also whether estimates of total out-of-pocket spending varied based on these expectations.

Some states known as “209(b) states” may set lower eligibility levels. Even if not fully eligible for Medicaid, another five percent of Medicare beneficiaries are eligible for Medicaid assistance with all or some of their Medicare premiums and cost sharing through MSPs, discussed above.


59 KFF CHARTBOOK, supra note 4, at 60.

60 Author’s analysis of data in Figure 7.2 in KFF CHARTBOOK, supra note 4, at 60 (on file with author).

61 Id. at 3.

62 KFF CHARTBOOK, supra note 4, at 60.

63 Fronstin et al. 2010, supra note 1 at 9.

64 KFF CHARTBOOK, supra note 4, at 60.
B. Measuring Out-of-Pocket Expenditures

There is no one clear benchmark for retiree out-of-pocket spending. Previous research on retiree out-of-pocket expenditures has yielded a range of different estimates of spending, depending on what data source is used or what particular categories of spending are included or excluded – a fact that in itself could cause consumer confusion.

Without a single database that accurately captures all sources of health care financing, studies rely on a mix of Medicare records and survey data that captures self-reported out-of-pocket spending. Researchers disagree on which survey data is most accurate, among the three main datasets, which each capture data differently and focus on a different population: the Health and Retirement Survey (HRS), the Medical Expenditure Panel Survey (MEPS), and the Medicare Current Beneficiaries Survey (MCBS).

Furthermore, studies are inconsistent in what out-of-pocket costs they capture in estimates. Most studies include premiums for Medicare Part B and supplemental coverage and cost sharing for medical care. But there is less consistent treatment of costs not covered by insurance, such as dental care and vision care, and the costs of long-term care. Some studies, including ours, exclude institutional long-term care costs (e.g., assisted living facility or nursing home) when discussing health care costs because most people don’t save for long-term care costs, which generally include little medical care, and it’s not clear...
many should with the availability of Medicaid as a safety net.70  This means that different considerations do and should go into budgeting for and financing long-term care than for other medical costs.71  Because long-term care takes many forms, some studies do, however, pick up some long-term expenditures for non-institutional patients, including short term nursing home stays, home-based care, or post-acute care, especially when financed by Medicare. These costs, if included in full, account on average for about 20 percent of total out-of-pocket spending.72  Inconsistency in measuring out-of-pocket health care costs leads not only to variation in estimates but also likely generates confusion on what types of spending people should consider in their own financial planning.

Finally, estimating future medical costs – both for experts and for untrained individuals – is by its very nature an uncertain science because of the unpredictable nature of medical cost inflation and policy uncertainty, as discussed further below.73  Researchers have to make assumptions about both of these factors that, at times, feel like little more than a shot in the dark. Medical care costs have been growing at a faster rate than the rest of the economy for some time now. From 1975-2008, Medicare spending grew at a rate of 2.5 percent faster than GDP and overall medical spending grew 1.9 percent faster than GDP.74  It’s difficult to predict, however, to what extent this level of growth will and can persist going forward. Most studies we cite rely upon projections of future cost growth made by the Medicare Boards of Trustees, calculated annually by the Office of the Actuary (OACT). OACT statistically models costs for the first ten years into the future and economically models the last 51 years of the 75 year projection period, using a linear interpolation to connect year ten to year 25.75  Until 2012, OACT has assumed that for the final 51 years, long-term cost growth will be GDP + 1, based on the general theory that one of

70 Many elderly tend either to use home equity to pay for nursing home costs or, if they lack home equity, deplete assets sufficiently to qualify for Medicaid. Hurd & Rohwedder, supra note 65, at 3. 
71 Supra note 70 and corresponding text. 
72 KFF CHARTBOOK, supra note 4, at 70 (showing long-term care as 19% of total out-of-pocket costs); Fishman, supra note 5, at 4 (“average out-of-pocket costs for all health-related needs are about 20 to 30 percent higher … when long-term care costs are taken into account). This means our benchmarks would be about one quarter higher if long-term care costs were included and perhaps more if long-term care continues to increase as a percentage of U.S. health spending, as it did from 3 percent in 1960 to 7 percent in 2007. Gruber & Levy, supra note 6, at 42. 
74 CONGRESSIONAL BUDGET OFFICE, supra note 26, at 27 (reporting that from 1975-2008, excess cost growth in Medicare was 2.5%, in Medicaid was 2.0%, in all other was 1.8%, and overall was 1.9%). 
75 Friedman, supra note 73, at 7-8 (describing OACT’s methodologies for projecting Medicare expenditures). OACT projects each category of spending for the first ten years into the future, using “demographically-adjusted extrapolations of past cost growth.” Id. OACT then uses a Computable General Equilibrium Model (CGE) to forecast years 25-75 and fill in the median timeframe through linear interpolation between year 10 and 25. Id. This method benefits from capturing “endogenous growth reduction” as health care consumes more of income, but does not take into account heterogeneity of preferences and assumes that health care operates as a standard good, not dealing with issues of moral hazard, adverse selection, or supply-side incentives for use of care.  Id. at 7.
several forces will serve as a brake on long-term cost growth to slow down the rate over time.\footnote{The model does not specify how such slowdown would occur, but it might occur in theory though increased supply, decreased demand as more of income is taken up by out-of-pocket costs, or policy changes. \textit{Id.} at 8. Parties disagreed over the appropriate assumption for long-term medical cost growth in 2012, in light of the policy changes enacted by PPACA. Shatto & Clemens, \textit{supra} note 73, at 1.} Despite considerable thought put into how to estimate long-term medical cost growth, these estimates involve significant guess work and can have a large impact on study results.\footnote{Other governmental offices use different methods and, for example, the Congressional Budget Office’s (CBO) estimates are higher than the OACT estimates because the only brake on cost growth CBO assumes is that non health care consumption will not decline. \textit{Id.} at 8.} This means that even as we use these expert estimates as a proxy for likely future spending, we acknowledge that they are necessarily an imperfect proxy in face of spending uncertainty.

Acknowledging the lack of a definitive savings target, we designed our survey questions so we could obtain data in a manner congruent with leading studies, in which experts estimate costs in two main ways: annual cost and the net present value (NPV) at age 65 of total lifetime health care spending throughout retirement.

1. \textit{Annual Estimates}

One common way to measure retiree out-of-pocket health care expenditures is on a periodic basis, such as average monthly or annual expenditures. \textit{We rely on a 2010 Urban Institute study (Johnson and Mommaerts) for benchmarks for respondents’ monthly spending estimates (Table One) because it is the most recent comprehensive set of estimates. This study reports estimates on an individual basis at decade intervals from 2010-2040 for each quartile of the spending distribution and excludes long-term care spending.}\footnote{Johnson & Mommaerts, \textit{supra} note 9 (using the Urban Institute DYNASIM3 model to simulate insurance coverage and project spending as a function of insurance coverage and 2006 HRS data on insurance coverage and 2006 MEPS data, which only includes community-dwelling individuals, on out-of-pocket costs. They exclude the costs of long-term care and indicate they use a 2009 intermediate growth rate of 2.8 percent for medical cost growth, which they say they have based on Medicare Trustees’ projections).} It projects that a retiree will spend on average $3278 in 2010 and at the median will spend $2583 in 2010, $3284 in 2020, $4569 in 2030, and $6214 in 2040 – all in constant 2008 dollars – as reported in Table One.\footnote{\textit{Id.} at 11.} For someone at the 75th percentile of the spending distribution, their estimates are $3934 in 2010, $4959 in 2020, $6855 in 2030, and $9455 in 2040.\footnote{\textit{Id.}} Based on these figures, the study estimates that the share of adults who spend more than 1/5 of household income on health care will grow to 45 percent in 2040, from 18 percent in 2010.\footnote{\textit{Id.} at 13.}
Table One: Annual Spending Benchmarks

<table>
<thead>
<tr>
<th></th>
<th>25th Percentile Annual Estimate (Monthly)</th>
<th>Median Annual Estimate (Monthly)</th>
<th>75th Percentile Annual Estimate (Monthly)</th>
<th>90th Percentile Annual Estimate (Monthly)</th>
</tr>
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<tbody>
<tr>
<td>2010</td>
<td>$1909 ($159)</td>
<td>$2583 ($215)</td>
<td>$3934 ($330)</td>
<td>$5854 ($488)</td>
</tr>
<tr>
<td>2020</td>
<td>$2453 ($204)</td>
<td>$3284 ($274)</td>
<td>$4959 ($413)</td>
<td>$7272 ($606)</td>
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<tr>
<td>2030</td>
<td>$3398 ($283)</td>
<td>$4569 ($381)</td>
<td>$6855 ($571)</td>
<td>$10,053 ($838)</td>
</tr>
<tr>
<td>2040</td>
<td>$4595 ($383)</td>
<td>$6214 ($518)</td>
<td>$9455 ($788)</td>
<td>$13,971 ($1164)</td>
</tr>
</tbody>
</table>

Source: Johnson and Mommaerts (2010)


Other studies that have estimated annual costs are less useful as benchmarks for our purposes, because they are less comprehensive (e.g., don’t include estimates at different percentiles of spending), older, or include long-term care, but triangulate roughly with and validate the reasonableness of the Johnson and Mommaerts’ figures as benchmark estimates. None of these studies, however, including Johnson and Mommaerts, considers changes to spending that will result from PPACA. This means that for some retirees, spending could be as much as 20-30 percent lower than these estimates, based on reductions to out-of-pocket prescription drug spending under Medicare Part D and adjustments to the terms of Medigap Plan F, as explained below. For others, it will remain similar. On the other hand, all of these studies are at least several years old and would be higher if updated to 2012 spending levels.

While the effect of the PPACA might suppress the rate of increase in costs for some retirees below the future year estimates, this study suggests that the typical retiree will spend in excess of $200 a month on health care costs now and a good deal more than that a decade or more down the road.

2. Lifetime Spending

A second way to estimate retiree health care expenditures is based on lifetime spending, or the net present value at age 65 of spending throughout retirement. This estimate is particularly important for retirees who will finance expenditures mostly out of savings, rather than out of cash flow. As a lump-sum benchmark, we rely on a 2010 Employee Benefit Research Institute (EBRI) report (Fronstin et al.),

82 A Kaiser Family Foundation analysis of 2006 MCBS data, which includes long-term care costs, reports average per capita cost in 2006 of $4241; no medians are available. KFF CHARTBOOK, supra note 4, at 70. Long-term care costs were 19 percent on average, which means average annual out-of-pocket spending was just over $3400 when excluding long-term care. Id. This estimate is in 2006 dollars and still $100 higher than Johnson & Mommaerts’ average ($3278). Centers for Medicare and Medicaid Services (CMS) estimated average annual out-of-pocket spending of $3800 for an individual retired in 2007, again with no medians reported. MUNNELL ET AL. 2008, supra note 6, at 3.

83 This estimate is based on comparing EBRI’s estimated median spending for a man and a woman with wraparound Medicare coverage from 2009, before PPACA, to their estimate in 2010, after PPACA. Fronstin et al. 2010, supra note 31, at 9 (estimating costs after PPACA); Paul Fronstin et al., Savings Needed for Health Expenses in Retirement: An Examination of Persons Ages 55 and 65 in 2009 6, EBRI Issue Brief (estimating costs in 2009, before PPACA) [hereinafter Fronstin et al. 2009].

84 Id. (estimates for retirees with employment-based supplemental coverage vary less, showing a decrease of 3-10%).
summarized in Table 2, which we chose both because it was the only study we found that incorporates the effects of PPACA on retiree out-of-pocket spending and generates estimates at different percentiles of spending. This study reports estimated median lifetime retiree health care costs of $65,000 for a man and $93,000 for a woman ($158,000 for a couple) retiring in 2010, not including long-term care expenses and using Medicare Boards of Trustees excess cost growth estimates.\footnote{Fronstin et al. 2010,\textit{ supra} note 31, at 9. Authors don’t indicate the figure they are using for excess cost growth, but the 2011 Medicare Trustees report assumed excess cost growth of 1.4% for Medicare Parts A and B and 2.5% for Part D for the first 10 years and assumes growth of GDP plus one after year 25. Estimates for years 10-25 are based on linear interpolation between year 10 and 25. \textit{The Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, 2011 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds} 12, at https://www.cms.gov/ReportsTrustFunds/downloads/tr2011.pdf. [hereinafter \textit{BOARDS OF TRUSTEES 2011}].} For someone retiring in 2020, the estimates are considerably higher ($109,000 median estimate for a man and $156,000 for a woman and $198,000 for a man and $230,000 for a woman).\footnote{Id. at 9. (median estimate of $109,000 for a man and $146,000 for a woman and 75\textsuperscript{th} percentile estimate of $165,000 for a man and $192,000 for a woman retiring in 2010 with unsubsidized ESI).} These estimates are based on individuals with median drug expenditures and “wraparound” Medicare coverage (i.e., Parts A, B, D and Medigap Plan F).\footnote{Id. at 5 (using MEPS data on non-institutionalized patients).} Their estimates are similar for an individual with supplemental ESI, whose employer contributes to coverage, but nearly 70 percent higher in the case of no employer contribution.\footnote{\textit{Supra} note 83 and corresponding text.} Because, as noted above, beneficiaries with supplemental Medigap spend more out-of-pocket than those with other forms of supplemental coverage (or with no coverage), these benchmarks may be higher than what some of our population should expect.

<table>
<thead>
<tr>
<th>Table Two: Lifetime Spending Benchmarks</th>
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<tbody>
<tr>
<td>Median Estimate</td>
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<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Man retiring in 2010</td>
</tr>
<tr>
<td>Woman retiring in 2010</td>
</tr>
<tr>
<td>Man retiring in 2020</td>
</tr>
<tr>
<td>Woman retiring in 2020</td>
</tr>
</tbody>
</table>

Source: Fronstin et al. (2010)

Note: Excludes long-term care spending and uses Medicare Boards’ of Trustees 2011 intermediate growth rate. Based upon an individual with wraparound Medicare (Medicare Parts A, B, D, and Medigap Plan F).

They use MEPS data, which excludes institutionalized patients (i.e., those in residential nursing home care) who tend to be more expensive, making their estimates lower than if the entire population were considered.\footnote{Id. at 9. (median estimate of $109,000 for a man and $146,000 for a woman and 75\textsuperscript{th} percentile estimate of $165,000 for a man and $192,000 for a woman retiring in 2010 with unsubsidized ESI).} Of note, the 2010 EBRI estimates are 20-30 percent lower than their own 2009 estimates,\footnote{\textit{Supra} note 83 and corresponding text.} due mostly to PPACA reforms that reduce Medicare Part D out-of-pocket expenses.\footnote{Fronstin et al. 2010,\textit{ supra} note 31, at 7.} Other studies, most of which estimate costs for an in-tact couple, not individuals, are within 10-20 percent of the...
As described below, we compare respondents’ answers to the data from these two benchmark studies, while acknowledging that actual future spending might differ from these expert estimates.

C. Demographics and Spending Variation

While most spending variation is uncertain, as discussed further in Part D below, certain observable factors hold predictive value, explaining an estimated 20-25 percent of spending variation on a population basis. Predictive factors include income, sex/longevity, health status – but only with respect to annual, not total lifetime, costs – and type of supplemental insurance coverage. Ideally, individual estimates of likely spending would take into account relevant predictive characteristics, which we examine below with regard to respondents’ answers.

First, higher income or wealth corresponds to greater out-of-pocket expenditures, reflecting that to some extent retiree health care spending is discretionary, especially if long-term care costs are included. A 2010 study (Marshall et al.) reports median expenditures of $5061 in the last year of life ($11,618 on average), but those in the highest income quintile have median spending of $6761 ($14,269 on average), as compared to median spending of $2689 for the lowest quintile ($9,046 on average). This differential means that the median retiree in the top quintile of income should expect to spend nearly 2.5 times more in the last year of life than the median retiree in the lowest. Wealth matters even more than income, with median spending in the top quintile in the Marshall study ($8,381) four times that in the bottom ($2,013), including higher spending in all categories, including insurance, drugs, and home care. This study concludes that higher-income retirees are buying independence, which they assert could be one way that wealth buys health. Spending estimates are also higher for higher-income retirees

92 In 2011, Fidelity actuaries estimated $230,000 lifetime out-of-pocket spending for the average couple saving to achieve 75 percent certainty of sufficiency (comparable to the above-cited EBRI estimate of $255,000 for a couple). Fidelity, Fidelity Viewpoints, Get Ready for Higher Health Care Costs, at 2 (July 1, 2010). A 2010 study by Webb & Zhivan estimates $197,000 in 2009 dollars for an average couple (most comparable to the EBRI $158,000 median) with a high school education and free of chronic disease at age 65, excluding long-term care expenses. Webb & Zhivan, supra note 65, at 37. This study uses a 4.2 percent rate of inflation-adjusted cost growth, based on 1960-2007 experience. Using a lower rate of 3.2 percent, based on CMS projections from 2007, they calculate an NPV that is 11 percent lower. This study excludes Medicaid-eligible households, those with long-term care insurance, and those with zero medical expenses and assumes that households are not subject to spending constraints, focusing on those who will finance most out-of-pocket spending on their own. Id. at 4.
93 Newhouse, supra note 22.
94 Marshall et al., supra note 66, at 4 (finding that spending in the last year of life is greater at higher income quartiles); Goldman & Zissimopoulos, supra note 65, at 197 (reporting spending for low, middle and high income earners with increasing out-of-pocket spending as income increases. Low incomes is defined as less than $12,600; middle as $12,600 to $38,860, and high income above $38,860, all in 1998 dollars); De Nardi et al., supra note 12 at 53 (modeling average medical expensive by permanent income quintile from age 74 to 100 and showing increased spending at each income quintile, including nursing home costs).
95 Marshall et al., supra note 66, at 4, 38.
96 Id.
97 Id. at 4.
in years prior to the last year of life, with spending levels for those above 400 percent of the FPL nearly twice of those below 100 percent of the FPL.98

Another major determinant of total lifetime spending is gender, due to longevity and the fact that women less often have employer supplemental retiree coverage and buy expensive Medigap policies instead.99 For those turning 65 in 2007, the average life expectancy for a man was 82 and for a woman was 85.100 Twenty-five percent of men would live to 87 and women to 90 and 10 percent of men would live until 91 and women to 95.101 As noted above, the EBRI study estimates lifetime out-of-pocket spending of $65,000 to $118,000 for a man at the 50th - 75th percentile and $93,000 to $137,000 for a woman retiring in 2010,102 which means women retiring in 2010 are expected to spend 43 percent more than men at the median and 16 percent more at the 75th percentile. Some studies also indicate that women have higher average annual out-of-pocket spending.103

Some factors, such as health status and age, have less straightforward effects. While annual expenditures are more for those identifying as in poor health, they live shorter lives and have lower total lifetime out-of-pocket expenditures. An individual’s health in any one year affects the out-of-pocket costs she will incur in that year and to a limited degree may predict costs in a future year.104 One study indicates that an individual with self-reported poor health spent on average 40-50 percent more in 2006 ($5,030) than someone reporting very good ($3,744) or excellent ($3,542) health.105 It does not follow, however, that good health will lead to lower total lifetime out-of-pocket costs (or bad health to higher). Another study (Sun et al. 2010) shows that the healthier retirees spend more in total over their retirement years because they live for and incur costs over more years.106 While this study also shows that healthier retirees spend less on average annually,107 the authors estimate that for a couple turning 65 in 2009, the

98 See, e.g. TRICIA NEUMAN ET AL., KAISER FAMILY FOUNDATION, REVISITING ‘SKIN IN THE GAME’ AMONG MEDICARE BENEFICIARIES: AN UPDATED ANALYSIS OF THE INCREASED FINANCIAL BURDEN OF HEALTH CARE SPENDING FROM 1997 TO 2005 2 (reporting mean spending of $2,761 under 100, $4,001 at 100-199 percent, $4,406 from 200-300 percent, and $4,997 above 400 percent of the federal poverty level, including long-term care spending).
100 Social Security, Actuarial Life Table 2007, at http://www.ssa.gov/OACT/STATS/table4c6.html
101 Id.
102 Fronstin et al. 2010, supra note 31, at 9. These are the estimates for beneficiaries with wraparound Medicare coverage.
103 See, e.g. NEUMAN ET AL., supra note 98, at 2 (2009) (reporting a mean spending of $4,281 for a woman and $3,765 for a man and median spending of $2,908 and $2,532, all for 2005 and including long-term care). Because this study included long-term care expenditures, it is less useful to us as a benchmark, especially with regard to gender.
104 Hurd & Rohwedder, supra note 65, at 9 (describing persistence of bad health/high spending and good health/low spending as present but not perfect); See James D. Reschovsky et al., Following the Money: Factors Associated with the Cost of Treating High-Cost Medicare Beneficiaries 1, Health Research and Educational Trust 13 (Feb. 2011). (finding health to be an important factor for high annual costs); Webb & Zhivan, supra note 65, at 15 (concluding that “current good health provides only a very limited guarantee of future good health”).
105 KFF CHARTBOOK, supra note 4, at [X]. No median data is available, and this study includes long-term care costs.
106 Wei Sun et al., Center for Retirement Research at Boston College, Does Staying Healthy Reduce Your Lifetime Healthcare Costs? (May 2010).
107 Id. at 2 (reporting that in 2009, excluding nursing home care, a household where the husband is age 70-74 and in good health will spend $6,000 on average compared to $7,416 for a household with a husband not in good health – defined as having ever been diagnosed with a chronic disease).
average lifetime cost is $220,000, where one or both suffer from chronic disease, as compared to $260,000 for a couple free of chronic disease.108 These estimates mean the healthy spend nearly 20 percent more over a lifetime.109 Another study reported that those in poorer health have less asset accumulation, both because of depletion and because of slower asset accumulation, which could explain lower spending.110

Likewise, it is not clear what effect, if any, advancing age has on annual out-of-pocket costs, but proximity to death often corresponds with higher annual health care costs.111 Marshall and colleagues examined HRS exit interviews to better quantify spending in the last year of life, and found average expenses in the last year of $11,618 with out-of-pocket spending as high as $29,335 at the 90th and $94,310 at the 99th percentile, including long-term care.112 Average annual health care costs do increase with cohort age113 – for the average cohort member – but studies suggest this increase largely reflects increased probability of death and high end-of-life costs, due to chronic disease and long-term care costs, that are more common for any one member of a cohort at older ages.114 For example, Hurd and Rohwedder report median annual spending for care (excluding premiums) for a non-institutionalized 65-69 year old of $720, 75-79 year old of $880, and an over 85 year old of $950, based on HRS data.115 Thus, looking at average spending for a population, we should expect to see a slow upward incline of average expected spending for cohorts at older ages. But age may be unreliable for predicting individual spending, unless used to gauge proximity to death.

In sum, we know certain factors are predictive of higher health care spending, including sex (women spend as much as 40 percent more than men, excluding long-term care), higher income or wealth (can more than double spending), poor health status (higher for annual spending but lower by as much as 20 percent for lifetime spending), and proximity to death. We consider below whether respondents’ answers vary accordingly, based on these demographic factors.

108 Id. at 1 (including home health and nursing home costs, but not costs of assisted living facilities or long-term care insurance premiums).
109 Id.
111 See generally Marshall et al., supra note 66. See also Webb & Zhivan, supra note 65, at 7; Meena Seshamani & Alastair M. Gray, A Longitudinal Study of the Effects of Age and Time to Death on Hospital Costs, 23 J. OF HEALTH ECON. 217, 230 (2004) (“Average hospital costs increased seven-fold in the last three years of life, compared to a 30% increase from age 65-80.”)
112 Marshall et al., supra note 66 This study uses data from HRS exit interviews and normalizes spending to a 12-month period. The authors seek to omit outliers that might be erroneous. A large part of this spending, particular at the high ends of the distribution, is for long-term care, which is beyond the scope of this study.
113 Micah Hartman et al., U.S. Health Spending by Age, Selected Years Through 2004, HEALTH AFFAIRS w2 (November 2007) (with respect to total expenditures, insured and out-of-pocket, showing a doubling from cohorts ages 65-74 to ages 75-84, and a tripling between ages 65-74 and over 85); See also Webb and Zhivan, supra note 65, at 7 (reporting increasing out-of-pocket spending by age). But see Susan T. Stewart, Do Out-of-Pocket Health Expenditures Rise with Age Among Older Americans?, 44 The Gerontologist 48, 50-51 (2004) (reporting generally no increase in out-of-pocket costs when long-term care spending is excluded and certain costs, including hospital costs, decrease).
114 Webb and Zhivan, supra note 65, at 2, 22.
115 Hurd & Rohwedder, supra note 65, at 17. Their mean and median estimates based on MCBS and MEPS data are lower. Id.
D. Coping with Future Uncertainty in Health care Costs

In addition to looking at the accuracy of respondents’ estimates of average out-of-pocket spending, we sought to gauge whether they understand the sources of and magnitude of uncertainty in such estimates. In other words, do respondents understand that – to a large degree – their future costs are unpredictable? The median benchmark estimates, discussed above, belie the variability in costs among retirees and over time. We examine the three major sources of uncertainty: the uneven distribution of costs among retirees based on personal health experience, unexpected excess health care cost growth, and policy uncertainty.

1. Uncertain Individual Health Experience

The distribution of health care costs is notoriously uneven with a long, expensive tail for some.\(^{116}\) The top five percent of Medicare beneficiaries account for 43 percent of total spending, and the top 25 percent account for 85 percent of spending.\(^{117}\) The factors discussed in Part C above can only predict 20-25 percent of variability in spending,\(^{118}\) which means spending varies significantly and unpredictably among retirees.

Johnson and Mommaerts estimate, for example, annual out-of-pocket costs in 2010 that range from $1909 at the 25\(^{th}\) percentile to $2583 at the median to $5854 at the 90\(^{th}\) percentile.\(^{119}\) Studies that include estimates at the 99\(^{th}\) percentile report annual out-of-pocket spending of over $20,000 for the very highest spenders.\(^{120}\) Total lifetime retiree spending can as much as triple from at the median to at the 90\(^{th}\) percentile of spending. As noted above, the EBRI study estimates median lifetime retiree health care costs of $65,000 for a man retiring in 2010 with wraparound Medicare coverage.\(^{121}\) At the 75 and 90\(^{th}\) percentile of spending, the estimates increase to $118,000 and $187,000 - a near doubling to tripling of costs above the median.\(^{122}\) For a woman the variability is slightly less, ranging from median spending of $93,000 to $213,000 at 90\(^{th}\) percentile, which still represents over a doubling.\(^{123}\)

Individuals thus face a risk of extremely high spending – double to triple that of a typical retiree – if they have particularly intensive health needs throughout retirement. For the most part, it is impossible to know in advance who will have more or less intensive needs, posing a particular challenge for individual retirement planning.


\(^{117}\) See Reschovsky et al., supra note 104, at 13.

\(^{118}\) Newhouse, supra note 22, at 1256.

\(^{119}\) Johnson & Mommaerts, supra note 9, at 11.

\(^{120}\) Hurd & Rohwedder, supra note 65, at 17 (Based on HRS data for a retiree in the 65-69 age bracket, they estimate $720 at the median and $21,950 at the 99\(^{th}\) percentile for those 85 and older, spending is $950 at the median to $25,150 at the 99\(^{th}\) percentile.).

\(^{121}\) Fronstin et al. 2010, supra note 31, at 9.

\(^{122}\) Id.

\(^{123}\) Id. For a couple turning 65 in 2009, one study estimated a doubling of expenditures from $260,000 on average to $570,000 at the 95\(^{th}\) percentile, including nursing home care but excluding the costs of assisted living facilities. Webb & Zhivan, supra note 65, at 20. Excluding all nursing home care, the average and 95\(^{th}\) percentile estimates were $197,000 and $311,000 – still an over 50 percent increase from the mean to the 95\(^{th}\) percentile.
2. **Health Care Cost Growth**

Uncertainty with respect to medical care cost growth also complicates predicting out-of-pocket exposure over the coming decades. While the Medicare Trustee’s long-term projection of Medicare cost growth has been GDP plus 1 percent in recent years,\(^ {124}\) historical excess health care cost growth has been over two percent in recent decades - 2.5 percent for Medicare and 1.9 percent overall from 1975-2008.\(^ {125}\) For excess cost growth to be closer to one percent or less in the future, a number of the Trustee’s assumptions must prove true, including the questionable assumption that Congress does not override policies that limit increases in the physician fee schedule.\(^ {126}\) In addition, PPACA created a new entity, known as the Independent Payment Advisory Board (IPAB), tasked with managing Medicare expenditure to keep cost growth to under GDP plus 1 percent,\(^ {127}\) but it faces constraints that might impede its ability to accomplish this goal,\(^ {128}\) assuming it survives Congressional attempts at repealing it.\(^ {129}\)

If health care costs were to grow at GDP plus 2 percent instead of GDP plus 1 percent, the out-of-pocket costs of an average retiree would increase on the order of 10 percent over the lifetimes of a typical retiree with an additional increase of approximately 10 percent for every additional percentage point by which out-of-pocket costs exceed GDP growth. This unexpected medical care cost growth is unlikely to have as dramatic effects as intensive individual medical care needs, but it is significant nonetheless.

3. **Policy Uncertainty**

Finally, policy changes, especially those made to the Medicare program, will shape future retiree costs in significant and unpredictable ways. With Medicare costs escalating as a percent of the total federal budget, from just over 2 percent a decade ago to 3.6 percent in 2010,\(^ {130}\) Medicare reform is a priority for policymakers in both parties.

Some reform proposals, including that in Representative Paul Ryan’s “Path to Prosperity” FY2013 budget plan that the House of Representatives passed in March of 2012,\(^ {131}\) attempt to curb future federal budget spending on health care by converting Medicare from a defined benefit to a defined contribution program.\(^ {132}\) This approach fixes federal government spending to the amount of a “premium support payment” per retiree, which retirees can use to buy a private insurance plan. If premium support payments grow more slowly than health care costs over time,\(^ {133}\) as anticipated, their relative value will

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\(^ {124}\) **BOARDS OF TRUSTEES 2011**, *supra* note 85, at 202-204.

\(^ {125}\) **CONGRESSIONAL BUDGET OFFICE**, *supra* note 26, at 27 (reporting that from 1975-2008, excess cost growth in Medicare was 2.5%, in Medicaid was 2.0%, in all other was 1.8%, and overall was 1.9%).


\(^ {128}\) *Id.* at 2378-2379.


\(^ {130}\) **KFF CHARTBOOK**, *supra* note 4, at 79.


\(^ {133}\) *Id.* at 53.
decrease. Many retirees will only be able to afford less comprehensive insurance plans and will face greater risk of high exposure in any one year. Several plans, including Representative Ryan’s and legislation introduced by Senators Lieberman and Coburn in 2011, propose to increase the Medicare eligibility age to 67.134

As one potential indicator of how significant such changes might be, the Congressional Budget Office in 2011 estimated (admittedly with quite stylized assumptions), that Representative Ryan’s Medicare reform proposal could more than double a typical retiree’s share of health care costs by 2022 with further increases in the following decade.135 If the value of premium support payments decreases over time, retirees will have less insurance coverage every year and will face greater risk of extremely high out-of-pocket costs if spending more than the typical retiree.

The fate of current policies that limit retiree out-of-pocket spending, including Part D and PPACA, will also greatly affect future exposure. PPACA is expected to reduce retiree out-of-pocket expenditures on net.136 Most importantly, it will decrease out-of-pocket spending for prescription drugs under Medicare Part D by $43 billion over ten years, by closing the so-called “donut hole,” a gap in Part D coverage of prescription drug spending.137 An EBRI estimate suggests that while PPACA has little impact on someone with median prescription drug expenditures, it decreases out-of-pocket spending for someone in the 90th percentile of spending by as much as one third.138 Other PPACA policies eliminate cost-sharing for preventive care139 and intend to slow Medicare cost growth overall, such as through the creation of the IPAB, discussed above, and through delivery reforms.140 It is uncertain whether these policies will in actuality save money at all and, if they do, will reduce out-of-pocket costs or simply lower federal outlays, preserving current levels of out-of-pocket spending.

On the other hand, certain PPACA policies could increase out-of-pocket expenditures for retirees. For example, PPACA reduces the rates Medicare will pay to private Medicare Advantage plans, which were historically compensated at rates about 10 percent higher than what the government spent for

134 Rick Unger, The Coburn-Lieberman Medicare Proposal - The Good, The Bad And The Ugly, FORBES (June 29, 2011); Ryan, supra note 132.
137 Id. at 2. Part D led to a reduction of $180 in annual out-of-pocket costs for the median participant and $800 at the 90th percentile. Engelhardt & Gruber, supra note 63, at 3-4. Prior to PPACA, after just over $3000 in spending, retirees would enter the so-called “donut hole” in coverage where they had to pay 100% of the next $3610 in spending before reaching the “catastrophic coverage” level ($6440 in 2010), after which Medicare and the plan together pay 95% of the costs. A beneficiary would spend $4550 total out-of-pocket on cost-sharing before qualifying for catastrophic coverage. MEDICARE CHARTBOOK, supra note 4, at 7 (2010).
140 See Berenson & Holahan, supra note 136, at 2-4 (discussing PPACA efforts to reduce provider payment rates through the Independent Payment Advisory Board, Accountable Care Organizations, and other delivery reform policies).
Medicare fee-for-service beneficiaries. CBO estimates that this reduction will cause enrollment in Medicare Advantage plans to drop to 9.1 million enrollees in 2019 (compared to a pre-reform estimate of 13.9 million). Since these plans can protect retirees relatively well against out-of-pocket exposure, their reduction would likely result in higher expenditures for some beneficiaries. Over time, PPACA might hasten the already ongoing erosion of ESI retiree supplemental plans through policies including the so-called “Cadillac Tax,” an excise tax on high-cost employer-sponsored health coverage. Starting in 2018, benefits worth more than $10,200 for an individual retiree or $27,500 for two or more individuals will be subject to a 40 percent excise tax. While this tax may not have a large effect at first because of high thresholds (set even higher for retirees than for employees), these thresholds will grow more slowly than health care costs so that a larger portion of benefits are taxed over time. The result might be increased cost-shifting to retirees or decreased availability of ESI for retirees.

The effect of potential policy changes range from small to considerable. Certain policy changes, including the plan proposed by Representative Ryan, might rival the risks an individual retiree faces of spending more if she incurs individual medical expenses at the 75th percentile of spending, which can result in double median expenses. The effect of unanticipated medical cost growth is considerably less than both of the above. We assess whether respondents are aware of the potential effect of and differing magnitude of these sources of uncertainty on their out-of-pocket health care expenditures.

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141 Id. at 2.


143 See supra note 46.

144 PPACA § 9001 (amending §49801(b) of the IRC) (2010). Other policies could have a similar effect. For example, starting in 2013, the subsidy to employers who offer retiree drug coverage will also be taxed, eliminating an exemption created under the Medicare Modernization Act and costing employers an additional $233 per retiree on average that must be reported as a liability in annual reports. Paul Fronstin, EBRI, Implications of Health Reform for Retiree Health Benefits 12 (2010).

145 PPACA § 9001 (amending §49801(b) of the IRC) (2010).

146 Id.
III. Survey Results

A. Survey Sample and Treatments

The goal of our survey was to explore how well individual expectations regarding out-of-pocket health care expenditures match the views of experts summarized in Part II of this paper. An abbreviated version of the survey questions appears in Appendix II. The survey was conducted in February and March 2012 through Rand Corporation’s American Life Panel, an internet-based vehicle designed to survey representative samples of the national population. Of 2116 respondents solicited, 1704 returned completed surveys, a response rate of over eighty percent. Our survey sample was structured to consist of eight age-based cohorts from ages 40-80 with five groups under the age of 65, principally those pre-retirement, and three groups 65 and older, principally those in retirement to see to what degree understanding adjusts based on actual experience. The older age cohorts were smaller based on the composition of the American Life Panel. Table Three reports basic demographics about the weighted sample, which was 52 percent female, 83 percent white, with an average age of 56 years old, an unemployment rate of 7.1 percent, and a mean educational achievement level of 10.6, equivalent some college but without obtaining a degree. Table Three also reports basic demographic data on key subsamples discussed below, based on gender, age cohorts, and income quintiles. Unless otherwise indicated, the survey results reported in this paper were weighted to be representative of the national population in the age cohorts we surveyed.

Our survey questions focused on respondents’ evaluation of their own out-of-pocket health care costs in retirement. We asked all respondents to estimate their monthly expenditures for out-of-pocket health care costs in retirement. We also asked each respondent how much they thought someone like

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147 In an effort to validate the form of the survey, we circulated preliminary versions to a number of experts and conducted a small pilot survey to ensure that questions were comprehensible and answers appropriate. In light of comments received in this process, we revised the survey and attempted to reduce the complexity of the questions to tenth grade reading comprehension or lower.


149 For purposes of the analysis presented here, our survey responses were uniquely weighted to ensure that our cohort samples are representative of the national population for non-institutionalized individuals over the age of 40. Rand weights are generated using an iterative raking algorithm adjusting for gender, education, age and income. For a general overview of the Rand weights, See https://mmicdata.rand.org/alp/index.php?page=weights.

150 In our survey, we offered respondents the following guidance about the kinds of costs we were interested in: “In this survey, we want to find out how much you expect to pay for health care in retirement. We are interested in your out-of-pocket costs. Out-of-pocket costs are any expenses that you pay yourself. In addition to any direct payments, these costs include insurance premiums for government programs and other health insurance plans. Out-of-pocket costs also cover deductibles and co-pays. Out-of-pocket costs do not include payments made on your behalf or reimbursed by government programs or other insurance plans. In all cases, we are asking about your own personal health care costs in retirement. Do not include health care costs of other members of your household. Unless otherwise indicated, please do not include in your estimates the cost of long-term residential health-care services (such as extended stays in nursing homes) or premiums for long-term health care insurance. Some questions ask for estimates about costs in the future. Please do not attempt to adjust your estimates to reflect price increases from overall inflation. Just make your estimates using the value of money today.”
himself or herself would need to save by age 65 in order to have enough money to cover all out-of-pocket health care costs during retirement. The first of these measures was intended to solicit estimates of an average monthly budget for out-of-pocket health care expenditures in retirement, while the second measure was an attempt to solicit a lump sum estimate of total out-of-pocket expenditures throughout retirement. As discussed above, experts employ similar approaches to measuring out-of-pocket expenditures, with our monthly budget estimates tracking expert estimates of annual costs and our lump sum estimates being analogous to the experts’ measure of the NPV of total lifetime health care spending at age 65. Among other things, we were interested in exploring whether the quality of individual estimates of out-of-pocket expenditures would differ based on whether the estimates were expressed in terms of monthly budgets or lump sum costs.

To facilitate our analysis of results, we included a few preliminary questions about respondents’ self-assessments of their own current health status, familiarity with financial planning and insurance sources covering health costs in retirement, and life expectancies. Towards the back of the survey, we also included several questions about long-term residential health care services, which we report in a separate paper.151 In the last section of the survey, we included a module on risk assessment, where, using two separate formulations, we asked respondents to assess several potentially important sources of variation in individual retiree health care costs: personal health and medical needs in retirement, unanticipated health care cost growth during their retirement, and changes in policy affecting Medicare and other government programs.

To ascertain how sensitive responses on out-of-pocket retiree health care costs might be to how our questions were framed, we divided our respondents into three basic treatment groups. In Treatment A, respondents answered a streamlined set of three questions about out-of-pocket health care costs: how much did they expect to spend on average each month for out-of-pocket costs in retirement; how much did they expect to spend per month on out-of-pocket costs during the final year of their life; and how much did they think someone like them would need to save by age 65 in order to have enough money to cover all out-of-pocket health care costs throughout retirement. In Treatment B, we added in additional questions about respondents’ expectations regarding their own health insurance coverage during retirement and also the monthly insurance premiums they expected to pay for that coverage. We also asked Treatment B respondents to estimate monthly out-of-pocket costs in retirement at three separate ages: 65, 75, and 85 as well as the final year of their lives. The hypothesis we hoped to explore with Treatment B was whether respondents’ assessment of out-of-pocket cost might be affected — and presumably increased — by prompting them to think about insurance coverage and to make separate estimates for insurance premiums, and by suggesting that out-of-pocket costs might be different at different points of retirement. Finally, in Treatment C, we asked respondents the same additional questions as we asked of Treatment B respondents but also provided additional information about average life expectancies, typical insurance premiums, ordinary ratios of premiums to out-of-pocket expenditures on medical care, and projected increases in medical health care costs above inflation to see whether such anchoring would influence participant respondents’ assessments of their own out-of-pocket costs.

151 We offered respondents the following explanation of these services: “Long-term residential health care services include extended stays in nursing homes or assisted living facilities and also extended assistance with activities of daily living (eating, dressing or bathing) at home by home health aides.”
B. Estimating Out-of-Pocket Retiree Expenditures

An individual’s estimate of total out-of-pocket costs depends on estimating future insurance coverage, future premiums, and total future spending (premiums plus cost-sharing for medical care) as well. We consider our respondents’ estimates with regard to each of these factors in turn below.

1. Insurance Coverage

We examined respondents’ expectations regarding insurance coverage in retirement to test the hypothesis that unrealistic expectations regarding coverage might lead to underestimation of out-of-pocket obligations. We asked them to estimate the likelihood that particular insurance programs would provide the respondent coverage for “at least a portion of your health care expenses at some point in retirement.” Table Four presents a summary of responses overall and also by age cohort.

In general, overall responses to these coverage questions reflected actual coverage levels. In terms of overall coverage rankings, respondents correctly identified Medicare as the program with the highest expected coverage levels (with a mean response of 73 percent, as compared to 95 percent in fact). Among the other categories, expectations regarding Employer Sponsored Insurance Coverage (mean response of 32 percent) is actually quite close to the 33 percent of Medicare beneficiaries reported in the literature review to have employer sponsored supplemental coverage. In contrast, the mean responses for Medicaid (38 percent) and Medigap (29 percent) both are in a range of close to double actual reported coverage levels from our literature review (15 percent and 17 percent, respectively).

The younger age cohorts estimates of expected Medicare coverage are much lower than current levels of participation in the program. For the 40-44 age cohort, the average estimate of Medicare coverage was just over 55 percent. In contrast, respondents 65 and over, estimated a nearly 90 percent or higher likelihood of coverage, quite close to actual current coverage levels (95 percent). In contrast, the younger cohorts over-estimate the likelihood of Medicaid coverage (at over 40 percent likelihood) as compared to actual current coverage levels (15 percent) and the expectations of older respondents (at

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152 The survey introduction to these questions read as follows:

“Many different government programs and insurance plans can cover health care expenses of retirees. With all these choices, many people are confused which plans and programs will provide them coverage. The next questions ask how likely you think it is that particular government programs and insurance plans will cover at least a portion of your health care expenses at some point in retirement. If you are certain that you will be covered, you should click the ruler on 100 percent. If you are certain that you will not be covered, you should click the ruler at 0 percent. If you think you may be covered but are not sure, click on the scale on the point on the ruler that best reflects your assessment of the likelihood that you may be covered or type the number reflecting that likelihood in the box below.”

153 We also surveyed respondents about their expectations regarding coverage from Veterans Administration programs, but do not report those results in this analysis.

154 As we asked each respondent to report the likelihood of personal coverage, the mean response can be interpreted as the expected coverage level of all respondents.

155 While the benchmarks in the literature review might be slightly low, for reasons discussed above, any underreporting of Medicaid or Medigap coverage would be small at most.
under 30 percent likelihood). The responses of younger cohorts might reflect some pragmatic assessment about the availability of Medicare in the future or confusion on the part of younger respondents about the differences between Medicare and Medicaid, notwithstanding the definition of Medicare included in our survey. Even for respondents over 65, expectations regarding the likelihood of Medicaid coverage (in excess of 25 percent) substantially exceeded actual coverage levels for retirees (15 percent).

Our respondents expressed stable expectations regarding coverage from employer-sponsored insurance programs, even though most industry experts assume that levels of employer-sponsored coverage will decline over time. A persistent feature of our survey responses with respect to comprehensive measures of retiree health care costs was the tendency of young cohorts to give quite similar responses as older respondents, suggesting that younger respondents may not be anticipating predicted changes in costs or coverage in the coming decades.

2. Premium Costs of Insurance

Where respondents from Treatments B and C indicated they expected to maintain a form of insurance coverage, we also asked what premium cost they anticipated paying to maintain such coverage in retirement. Table Five reports the respondent expectations for total Medicare premiums, Medigap premiums, and employer sponsored insurance premiums. Here and elsewhere below, we report results in terms of key percentiles of responses (the 10th percentile, the 25th percentile, median, 75th percentile, and 90th percentile) as well as mean and standard deviation. The use of percentiles is helpful in interpreting results because in some questions responses to dollar amounts included high outliers that skew sample means and inflate standard deviations.

[insert Table Five here]

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156 Here, and elsewhere throughout the paper, we make comparisons between responses of younger and older cohorts. Where differences are noted, we tested for statistical significance under both Wilcoxon-Mann-Whitney rank-sum and median non-parametric tests. We used non-parametric tests because in many instances the distributions of responses were skewed. Unless otherwise indicated, the differences were significant at the 99 percent confidence level.

157 On the other hand, as discussed below, the younger cohorts do not estimate consistently higher levels of out-of-pocket expenses than other cohorts of the sort that one would expect if younger cohorts were consciously anticipating less generous Medicare coverage in the future.

158 For those respondents in Treatment B and C who indicated that they thought there was some probability that they would maintain Medicare coverage at some point in retirement, we asked whether they expect to maintain Part D Prescription Drug Coverage or to participate in Medicare Advantage. Respondents overwhelmingly reported that they expect to maintain Part D Prescription Drug coverage (quite consistent with the 60 percent coverage levels reported in the expert literature). Of respondents giving definitive answers, over 75 percent indicated that they expected to have Part D coverage (611 of 814). Respondents reported greater uncertainty about Medicare Advantage participation, with nearly half of all respondents reporting that they didn’t know or hadn’t decided about the issue. Those giving a firm answer to the question reported a good deal higher level of Medicare Advantage take-up (281 of 640 or nearly 44 percent) than the literature review indicates is currently the case (25 percent of current Medicare beneficiaries).

159 For purposes of this and similar tables below, we have not attempted to eliminate outliers in the data. See discussion infra note 189.
Starting with Treatment B respondents, the median expected total premiums estimates were $120 for total Medicare premiums, $50 for Medigap premiums, and $55 for employer sponsored insurance premiums. Actual current premium costs for these programs are shown in the right hand column of Table Five. A typical monthly premium for total Medicare costs (basic coverage plus Part D) is currently $140 to $150, which means median respondents’ estimates were at most 20 percent lower than the actual current premiums. On the other hand, 25 percent of respondents thought their total Medicare premiums would be $98 or lower and a similar number estimated $250 or higher. Because low-income Medicare beneficiaries can benefit from premiums subsidies through Medicare Savings Programs, described above, and higher income beneficiaries pay more on a sliding scale (as much as $250 or higher), these estimates might reflect a reasonable distribution of estimates. On the other hand, to the extent, responses do not align with likely personal expenses, the accuracy at the median could communicate the “wisdom of crowds” but might obscure possibly substantial ranges in either tail of the distribution for individual respondents.

Treatment B responses are lower than Treatment C responses, where respondents were prompted with basic information about actual pricing comparable to the information shown in the right hand column. One of the goals of our survey was to explore whether this anchoring information would affect respondent estimates. In all cases, the median Treatment C estimates of premium costs moved up and closer to levels suggested in the anchoring information and – perhaps even more pronouncedly – the range of variation in responses, as measured by high and low percentiles tightened around the medians in almost all cases. So, for example, where the distance between the tenth and ninetieth percentiles on the Treatment B responses for total Medicare premiums was $470, the distance between the same percentiles on the Treatment C responses was only $300. Anchoring information provided Treatment C respondents had especially pronounced effects on estimates for Medigap and Employer Sponsored insurance premiums, where the median estimates of Treatment B respondents were a good deal lower than actual costs, suggesting that public understanding of the costs of these supplemental policies may be less accurate the knowledge about Medicare premiums.

Premiums estimates varied by age cohort. Figure One shows distributions of expectations for total Medicare premiums by age cohorts for respondents from Treatments B and C. The median response for each age cohort is shown as a number located along a vertical line that represents the distance from the 25th to 75th percentile responses for that cohort. The numbers above represent the 90th percentile responses for each cohort. As shown in Figure One, the median cohort responses trend downward with

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160 As discussed below, cost estimates among respondents is positively correlated with income levels, and this is also true of total Medicare premium estimates, where the median estimate of respondents in the top income quintile was $200 whereas the median estimate of those in the bottom quintile was $100. These figures are based on a combination of respondents in Treatments B and C.
161 Note also that mean estimates for these monthly costs skew high, pulled up by a handful of respondents who tend to high-ball their estimates, perhaps reflecting unwillingness or possibly an inability to respond to our estimation requests.
162 Additional information on our anchoring information is available from the authors.
163 Whether the difference in medians between Treatment B and Treatment C is significant for policy purposes is an interesting question. As noted below, Treatment B and Treatment C estimates for total out-of-pocket costs were surprisingly similar both to each other and to the estimates of Treatment A respondents. So however one judges the difference in median estimates about premiums, those differences largely disappear when respondents were asked to estimate overall costs.
older cohorts and also the range between the 25th and the 75th percentile as well as the height of the 90th percentile responses compresses with older cohorts. This narrowing of ranges with increasing age is consistent with the greater confidence and knowledge that older participants have about health care costs in retirement. The higher median responses of younger cohorts may suggest expectations that their Medicare premiums are likely to be higher than those of current retirees, but these higher premium estimates do not translate into higher expectations of total out-of-pocket cost for younger cohorts, as discussed below.

3. Estimates of Total Out-of-Pocket Expenditures

As explained before, we examined two different approaches to measure of out-of-pocket retiree health care costs: average monthly estimates and lump sum estimates. As much of our analysis is based on comparisons to expert benchmarks, we begin by explaining how we compare estimates with benchmarks. When evaluating responses combining all age cohorts, we have chosen to benchmark against expert estimates for 2020, on the grounds that 2020 approximates the age of retirement of our median respondent (who is 56.5 years old). An alternative benchmark for these purposes is the 2010 benchmark as the closest reflection of current costs, and at several points we refer to that alternative benchmark for illustrative purposes, but our preference was to rely primarily on the 2020 benchmark as more appropriate for the typical respondent. \(^{164}\) In analyzing monthly cost estimates, we also had expert benchmarks for 2030 and 2040. Accordingly, in some cases, we divided our age cohorts into four groups (the 40-year olds, the 50-year olds, the 60-year olds, and the 70-year olds) and compared the responses for these subsamples to what seemed to us the most appropriate monthly costs benchmark (2040, 2030, 2020, and 2010, respectively), based on an approximate midpoint of the years the average cohort member will be in retirement. For our lump sum measures of total costs, we only have estimates for those retiring in 2020 and 2010, distinguishing male and female costs, and so we evaluated respondent estimates of lump sum costs using gender-based subsamples and gender-based benchmarks for 2020. As noted above, in comparing the distribution of our survey results to these benchmark estimates, we do not mean to suggest that the individual respondents were correctly estimating where on the distributions their actual health care expenditures will fall. Rather, we look at how well the distribution of our responses aligns with what experts estimates suggest is likely to occur in the overall population. The likely relationship between individual estimates and actual cost experience is a topic we take up in Section III.C below.

a) Estimating Monthly Out-of-Pocket Costs

Our basic findings with respect to monthly expenditures are presented in Table Six, which reports average monthly cost estimates for all respondents, broken out first by treatment groups and then by age cohorts. \(^{165}\) In contrast with the premium estimates discussed above, respondent estimates are relatively

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\(^{164}\) Yet another approach would have been to use a benchmark somewhat higher than the 2020 benchmark on the grounds that our average respondent would spend much of retirement in later years with higher costs. We chose not to make this further adjustment because the more distant benchmarks are more speculative and the 2020 benchmark may already be somewhat high to the extent that it does not incorporate expected savings from PPACA.

\(^{165}\) Treatment A respondents were asked a single question about average monthly costs during retirement and for these respondents we used that single estimate in Table Four and accompanying figures. Respondents in Treatments B and C were asked to give different monthly estimates for age 65, 75, and 85. Respondents who were 65 or older
stable across treatment groups. While Treatment C responses showed a modest narrowing in distribution similar to the narrowing noted above for their estimates of premiums, the treatment groups provided similar estimates, regardless whether they were simply posed questions about out-of-pocket costs in Treatment A or given a good deal of additional framing and then anchoring in Treatments B and C. Median responses did not differ that greatly across treatments.

[insert Table Six here]

Average monthly cost estimates across age cohorts are also reported in Table Six and illustrated in Figure Two. The most striking feature of the age cohort estimates is the relative consistency of median estimates. In contrast to responses discussed above about future Medicare premiums, the median respondents in their forties are projecting almost exactly the same average monthly costs as those just on the eve of retirement, suggesting that younger respondents are not projecting cost increases (or, alternately, might not understand the implications of real cost growth\textsuperscript{166}). As the extent of those increases is expected to be substantial, these responses may suggest an important source of consumer confusion, or at least misapprehension about likely health care costs in retirement. There does, however, seem to be somewhat greater uncertainty about retiree healthcare expenditures for at least some of younger cohorts. While the spread between the 25\textsuperscript{th} and 75\textsuperscript{th} percentiles does not widen markedly with the younger cohorts, the 90\textsuperscript{th} percentile responses do, suggest that at least a fraction of respondents in the younger cohorts are estimating substantially higher health care costs than their counterparts in the older cohorts.

[insert Figure Two here]

Assessing how well the respondents did in matching expert estimates of monthly costs requires a more subjective evaluation. As explained above, our strategy here is to measure aggregate respondent estimates against the 2020 expert benchmarks, which are summarized at the top of the right hand column of Table Six. In Figure Two A, we present a histogram of average monthly costs estimates of all respondents against the 2020 benchmark.\textsuperscript{167} This figure reveals an interesting and recurring pattern from our responses. At the right hand side of the distribution – reflecting respondents with higher cost estimates – our survey responses relatively closely track the benchmarks; indeed, in Figure Two A, almost exactly a quarter of respondents (25.56 percent) report monthly estimates at or above the 75\textsuperscript{th} percentile estimate, with more than thirteen percent of respondents providing estimates above the

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\textsuperscript{166} An alternative interpretation is that respondents may have understood our instructions to express answers in terms of current dollars and not to adjust for general inflation as guidance that they should avoid any source of increase in out-of-pocket costs, whether from excess medical care cost growth or the reduction of government insurance programs. In this case, our responses might reflect confusion regarding general inflation versus other economic or cost growth.

\textsuperscript{167} The left hand column of Figure Two A indicates what share of the responses were below the 2020 expert benchmark for the 25 percentile of expenditures; in the next column the share that fell between the 25\textsuperscript{th} percentile and the median; in the next column the share between the median and the 75\textsuperscript{th} percentile; in the next column the share between the 75\textsuperscript{th} percentile and the 90\textsuperscript{th} percentile; and in the final column the share of share above the 90\textsuperscript{th} percentile. In the unlikely event that our respondents’ estimates perfectly matched this exert benchmark, the first three columns of the histogram would equal 25 percent of respondents and the final two columns would sum to 25 percent (with 15 percent in the fourth column and 10 percent in the fifth).
benchmark’s 90th percentile estimate. Forty percent of respondents had estimates above the benchmark median. (The 2020 benchmark median was $274 whereas the aggregate respondent median was $200.) Where the distributions diverge is below the benchmark median. Less than nine percent of the respondents had monthly estimates in the 25th to 50th percentile ranges leaving more than fifty percent with estimates beneath the 25th percentile of the benchmarks. This bimodal distribution of respondent estimates, as measured against the 2020 benchmark, suggests that while the median responses of our survey may not fall too substantially beneath the benchmark medians, many more of our respondents reported monthly cost estimates in the bottom quartile of the benchmark distributions than would be consistent with expert views.168

[Insert Figure Two A here]

In an effort to explore the relative performance of different age cohorts, we made a further comparison of the responses of four groupings of age cohorts again four separate expert benchmarks. The results are summarized in Figure Two CDEF. While each of the histograms in this figure has the same basic structure – with the largest share of responses located in the bottom quartile of the respective benchmark – the combined histograms demonstrate that the younger respondents fall further behind their respective benchmarks than do the older cohorts. So while 45.8 percent of 70-year old respondents had average monthly estimates in the bottom quartile of the 2010 benchmark, 67.7 percent of the 40-year olds had responses in the bottom quartile of the 2040 benchmark. Similarly, the number of younger respondents at or above the benchmark median (as well as the 75th or 90th percentiles) declines with decreasing age cohorts. While these responses are subject to various interpretations, including that respondents misunderstood the instruction not to adjust estimates to reflect overall inflation, younger respondents do not seem to have making upward adjustments in their estimates to match the higher health care costs that expert predict. The results thus raise potential concerns that a significant percentage of those in younger cohorts are under-estimating the likely costs of their health care costs in retirement.

[Insert Figure Two CDEF here]

Our survey questions on monthly cost estimates also included two extensions that explored the extent to which respondents expected their monthly costs to vary over the course of retirement. First, we asked all respondents to make separate monthly cost estimates for the last year of their lives. Respondents overwhelming estimated that they would have higher monthly costs in their final year.169

168 If one were to use the 2010 benchmarks rather than the 2020 benchmarks to make these comparison, similar, though somewhat less pronounced results would be produced. With the 2010 benchmark, respondents’ median estimate of $200 was only marginally below the benchmark median of $215. Slightly over 33 percent exceeded the 75th percentile of the 2010 benchmark with 21.6 percent above the 90th percentile. On the left hand side of the distribution, 41.3 percent of respondents had estimates below the 25th percentile. In short, while our survey responses track more closely the 2010 benchmarks, the lower end of the survey distribution is still substantially over-represented in the bottom quartile of the benchmark. Were one to employ the 2030 benchmark, which had a median estimate of $381, only 15.8 percent of survey responses were above the 75th percentile and only 7.6 percent above the 90th percentile. Measured against the 2030 benchmarks, more than sixty percent of respondents had estimates beneath the 25th percentile.

169 There is a risk of demand effect, namely that inquiring about last year costs suggests that such costs will be higher. Even if demand effect is occurring here, it is nonetheless interesting that the magnitude of estimates is close to experts’ estimates and that, when prompted, people intuit higher costs in their final year.
The median estimate was $350 as compared with a median estimate for average monthly cost of $200 for all respondents. We also calculated the ratio of individual responses on this question to their average monthly cost estimates, and determined that the median ratio was 1.46 or nearly 50 percent higher than the average monthly cost estimate. This is similar to though not as extreme as estimates based on expert data of a ratio of 2, or nearly 100 percent higher.\footnote{This ratio is calculated based on the estimate in the Marshall study of the median last year of life ($5061) divided by the overall median annual estimate in the Johnson and Mommaerts study ($2583). Marshall et al., supra note 66, at 37. Johnson & Mommaerts, supra note 9, at 11.}

We also compared individual respondent estimates of monthly costs at age 85 as opposed to monthly costs at age 65, for respondents in Treatments B and C, to gauge their understanding of how costs are likely to change toward the end of their lives. While one quarter of respondents projected monthly costs at 85 at or below levels at age 65, the median response indicated projected an increase of 33 percent, which is in line with the ratio of cost increases reported above in our literature review for costs experienced by the average member of an 85 year-old cohort, as compared to the average member of a 65 year-old cohort.\footnote{A comparable increase of 33% can be seen in the median estimates from the Hurd & Rohwedder study of $720 for a 65-69 year old and $950 for an over 85 year old. See supra note 65.} So, again on this dimension, the typical response was consistent with expert views.

\subsection*{b) Lump Sum Estimates}

As an alternative measure of retiree healthcare costs, we asked all respondents to estimate the amount of money that a person similar to the respondent would need to accumulate by the age of 65 in order to save enough money to pay for off of their expected total out-of-pocket costs for health care in retirement.\footnote{The actual question read as follows: “In planning for retirement, some individuals like to think in terms of how much money they would need to save by the time they turn 65 in order to have enough money to cover out-of-pocket costs in retirement. Imagine that you were asked to give advice to someone with similar preferences and health characteristics as your own. If such a person wanted to have enough money to cover a reasonable estimate of their total out-of-pocket costs for health care in retirement, how much do you think they would need to have set aside? Please give your answer in terms of the total amount of dollars needed at age 65.”} Our goal here was to solicit savings targets that the respondents would associate with the amount of savings needed on the eve of retirement to cover expected health care costs in retirement.\footnote{It is possible – as one reader noted – that respondents could interpret this question to mean how much they would need to have saved to avoid bankruptcy or significant retirement risk, rather than to cover all out-of-pocket costs. In this case, retirees’ estimates would be lower than their expectations of total costs, in which case their expectations of total costs would be even closer to experts’ estimates than we report above.} The accuracy of respondents’ lifetime spending estimates relies on three different factors: their estimates of monthly spending, their projections of life expectancy, and their ability to toggle between monthly and lifetime estimates, considering real cost growth. Even if a respondent estimates monthly spending well, she might underestimate her life expectancy and thus the number of years of future spending. Further, recent financial literacy research illustrates the difficulty people have translating between periodic and lump sum payments, suggesting that our respondents might similarly struggle.\footnote{See generally, e.g., Jeffrey R. Brown, et al., Do Consumers Know How to Value Annuities? Complexity as a Barrier to Annuitzation (June 7, 2012) (draft manuscript on file with authors) (showing difficulty among survey}
projections of life expectancy were very close to Social Security Administration projections, as discussed in the box on life expectancy below. Furthermore, the translations between monthly and lifetime estimates were mostly sensible, as discussed just below.

As reported in Table Seven, the responses on lump sum estimates were consistent with those on monthly costs. To begin with, there was again extremely modest variation across treatments, with all three treatments having a median estimate of approximately $50,000 and only a modest narrowing of distributions from Treatment A to the other two treatments. So again, framing and anchoring had negligible effects on responses.

[insert Table Seven here]

Results broken down by age cohort were also reminiscent of those we obtained for estimates of average monthly costs: The median responses of all age cohorts were at or close to $50,000, and the distance between the 25th and 75th percentile responses was also highly consistent across age cohorts, although the 90th percentile responses did tend to drift upward for younger cohorts, again suggesting greater uncertainty about future costs. See Figure Three. On average, the younger cohorts seemed to be making lump sum estimates quite similar to those of older cohorts on the eve of retirement or in retirement.\(^{175}\)

[insert Figure Three here]

Interpreting responses of younger cohorts on these lump sum questions is difficult. Some respondents might have interpreted the question to solicit estimates of savings targets for someone reaching 65 today in which case adjustment for future real increases in health care costs would not have been appropriate.\(^{176}\) It is also possible that respondents had difficulty in making adjustments to savings targets to reflect real increases in future health care costs. On the other hand, it is troubling that younger cohorts generally did not project high savings targets, especially if these projections influence retirement planning for individuals several decades away from retirement.\(^{177}\) While there are undoubtedly complexities in interpreting responses of younger cohorts with respect to these savings targets, the fact respondents in valuing annuities); Jeffrey R. Brown, et al., Framing and Claiming: How Information-Framing Affects Expected Social Security Claiming Behavior (February 28, 2012) (showing that individuals’ choices on when to claim Social Security benefits, from ages 62-70, vary based on how this claiming decision is framed).

\(^{175}\) Conceivably, some of this underestimating of savings needs might reflect modest misperceptions about life expectancies. As noted in an accompanying box (located at the back of the current draft), respondents did slightly underestimated the likelihood that they would survive to ages 65 and 75, when compared with expert assessments. This factor could explain one of the reasons why respondents’ lump sum estimates fall a bit further beneath expert estimates than was the case with respondents’ average monthly cost estimates.

\(^{176}\) The wording of our survey question appears above in note 172.

\(^{177}\) One intriguing hypothesis suggested by a workshop participant is these responses reflect an expectation of younger respondents that political forces will not allow out-of-pocket costs to increase above $50,000 in current dollars. Under this view, respondents collectively might have a more accurate view of future out of pocket costs than experts focusing primarily on past trends and without accounting for political constraints.
that younger respondents did not estimate materially higher savings needs than older cohorts strikes us as a potentially important finding and worthy of further study.\footnote{Conclusions with respect to younger cohort responses are probably best drawn from a complete review of survey response. We attempt such a summary in the conclusion of this paper.}

Our expert benchmarks for lump sum estimates – which again center on 2020 benchmarks – distinguish between projected spending for men and women. Figure Three AB presents histograms of responses for male and female subsamples against their respective 2020 benchmarks. (Note: the lump sum benchmarks do not include a 25\textsuperscript{th} percentile estimate and so the left hand column of these histograms reports the share of responses beneath the benchmark median.) As with the comparable histograms for average monthly costs, Figure Three AB shows that both responses from both men and women produced a bimodal distribution with a healthy share of respondents making lump sum estimates above the 75\textsuperscript{th} percentile of the relevant benchmark (29.3 percent for men and 20.5 percent for women) and a disproportionate share of both subsamples reporting responses beneath the benchmark median (64.0 percent for men and 76.9 percent for women). While the general structure of these histograms are similar to analogous charts for average monthly cost estimates\footnote{The absence of a 25\textsuperscript{th} percentile benchmark for lump sum estimates makes it less easy to identify the extent to which our lump sum responses gravitate to the left hand side benchmark distributions. However, for our full sample as well as both male and female subsamples, the 25\textsuperscript{th} percentile response was just $10,000, very far below median lump sum benchmarks for either men ($109,000) or women ($156,000). So it appears quite likely that our lump sum responses were also skewed to lower end estimates.}, it is striking that the women’s responses fall further beneath benchmark metrics than the men’s do. This is particularly true if one focuses on median responses: Where as the men’s median response of $60,000 is over 50\% of the benchmark median for men of $109,000, the women’s median response of $30,000 is less than a fifth of the benchmark median of $156,000 for women.\footnote{One sees similar differential if survey lump sum responses are measures against the 2010 benchmarks. The 2010 benchmark median for women is $93,000 which is almost twice our actual median female estimate of $50,000, where the 2010 benchmark median for men is $65,000, which is actually somewhat less than the median male estimate of our respondents: $75,000.} As discussed further below, this gender differential reemerges at several other points in our analysis.

\[2\] Lump Sum Versus Implied Lump Sums

One of the hypotheses that we wanted to explore with our lump sum estimates was whether respondents might do a relatively good job estimating monthly costs and life expectancy but then make some sort systematic error in mental math that led them to make unreasonably low lump sum estimates. Such a cognitive error would be significant because it could lead individuals to set their targeted savings for retirement health care at too low levels, even if they did a relatively good job at estimating what their average monthly expenditures for retiree health care might be. A casual comparison of the lump sum estimate results reported above suggests that respondents – at least on average – made no such mistake, at least to a materially important degree. The relationship between lump sum estimates and expert views as to the savings needs to cover health care costs was roughly comparable to the relationship between average monthly cost estimates and expert views.
Nevertheless, we analyzed the relationship between respondents’ monthly cost estimates and their lump sum estimates by generating for each respondent an “implied lump sum estimate,” based on the monthly cost estimates that person provided, their final year monthly cost estimates, and their reported self-assessed life expectancies.\textsuperscript{181} Using this information, we projected an expected cost cash flow for the person and then discounted that cash flow back to a valuation at age 65, which represents the amount of money the person would need to exactly cover his or her self-reported expected monthly costs. We made these calculations using several different discount rates; the results reported here employ a 1.5 percent real discount rate.\textsuperscript{182}

Rather than excessively discounting their lump sum estimates, respondents appear to have modestly adjusted upward their lump sum estimates as compared to implied lump sum estimates. The implied lump sum estimates, at least as we calculated them, were about six percent lower than respondents’ actual lump sum estimates taken as a group ($47,000 implied lump sum, as compared to $50,000 the median actual estimated lump sum). Alternatively, they may have been adding a modest cushion of additional savings to make sure they would have enough for unanticipated costs. While these results are sensitive to our assumed discount rate, the results do not suggest significant downward errors in lump sum calculations.\textsuperscript{183}

In fact, we see some evidence of erroneous inflation of lump sum estimates when looking at the distribution of implied lump sum estimates by age cohort, as shown in Figure Four. The distribution of percentiles is much narrower in this figure than in the comparable figure (Figure Three above) for actual lump sum estimates. In particular, the 90\textsuperscript{th} percentile estimates are much lower. For example, the 90\textsuperscript{th} percentile estimate of implied lump sums for the 45-49 age cohort is about $180,000 whereas the comparable 90\textsuperscript{th} percentile estimate for actual lump sum is $750,000. In other words, far from excessively discounting their lump sum estimates, our respondents in many cases were offering lump sum estimates that were substantially higher than the savings levels actually needed to match their own estimated monthly costs and self-assessed life expectancies.\textsuperscript{184} So rather than engaging in mental math that set unrealistically low savings needs, a substantial number of respondents appear to have been engaging in mental math that suggested an unobtainable high savings target. Such high targets could create a barrier to saving out of a sense of futility, as discussed further below.

\textsuperscript{181} In an accompanying box, we report the result of respondent’s self assessed life expectancies, which generally track prior research on the topic in that respondents tend to underestimate their likelihood of reaching ages 75 and 85, which tends to reduce implied lump sum estimates from expert calculations based on actual life expectancies.

\textsuperscript{182} As respondents were instructed to estimate future monthly costs in terms of current dollars, a real (as opposed to nominal) discount rate was employed. As a robustness check, we recalculated respondents’ implied lump sums using both a 3.0 and a zero percent discount rates. With the 3.0 discount rate, median response for cohorts range between $35,000 and $45,000 with an overall median of about $10,000 lower than actual lump sum estimates. With a zero discount rate, the median response for cohorts ranged from $45,000 to $75,000 with an overall median about $8,000 higher than actual lump sum estimates. These results crudely suggest that respondents may be using a mental discount rate closer to 1.5 percent.

\textsuperscript{183} Even with a zero percent discount rate, the median implied lump sum estimate was just under $58,000.

\textsuperscript{184} The upper range of actual lump sum estimates exceed implied lump sum estimates even when calculated using a zero percent discount rate. So, for example, the 90\textsuperscript{th} percentile response of the 45-49 age cohort with an implied lump sum calculated with a zero discount rate is roughly $225,000 compared with the $750,000 90\textsuperscript{th} percentile estimate for actual lump sum for that age cohort.
C. Estimating Demographic Spending Variation

One of the complexities in interpreting respondents’ answers is uncertainty whether those reporting low or high estimated costs are, in fact, individuals who will incur below or above median actual health care costs in retirement. To tease out this question, we segmented our sample into a series of subgroups based on income, gender, self-reported health status and financial sophistication (based on self-reported information on financial planning and familiarity with budgeting and health care insurance as well as self-reported consultations with financial planners). We then analyzed whether this partitioning of the data produced differences in average monthly cost estimates or actual lump sum estimates that were consistent with expert evaluations of the relationships between these categories and retiree health care costs. The results, which are summarized in Table Eight for average monthly costs, are mixed.

[insert Table Eight here]

Variations by income levels tracked expert evaluations. As discussed above, higher income individuals tend to pay more for retiree health care and also live longer thereby increasing overall retiree health care costs. Our survey respondents seemed to be quite attuned to this effect. So, as reported in Table Eight, the median expected monthly cost of the lowest quintile respondents was just $100, whereas the median response for the highest quintile of respondents was $350. As shown in Figure Five, this differential was even more pronounced with respect to lump sum estimates where median estimates of the lowest income quintile were $10,000, as compared to $100,000 for the highest quintile. In terms of the effect of income on retiree health care costs, respondents’ intuitions were directionally aligned with expert views, even if perhaps showing a stronger effect than experts might suggest is likely. 185

[insert Figure Five here]

We observed the opposite with regard to gender. As a result of having longer life expectancies and more expensive supplemental coverage, a typical woman retiring in 2010 has 40 percent higher expected out of pocket health care costs in retirement than a typical man186 and higher expected annual costs.187 But, as reported in the second section of Table Eight, woman generally estimated lower average monthly costs than men with a median estimate of $190 for women as compared to $217 for men. This difference was even more pronounced for lump sum estimates where women’s median estimate was $30,000 versus $60,000 for men. Thus, women underestimated average monthly health care cost as compared to men and compounded that underestimation in producing lump sum estimates, making their actual reported median estimates substantially below the benchmark median estimates for women, as drawn from our literature review.

Also somewhat surprisingly, monthly estimates increased with higher levels of self-reported health status of respondents. As reported in the third section of Table Eight, the estimated average monthly costs of those reporting “Excellent” health were the highest whereas the estimated monthly costs of those reporting “Poor” and “Fair” health were the lowest. Similar effects can be observed in the lump

185 As discussed above in notes 94 to 98, wealthier respondents also gave higher estimates of total Medicare premiums.
186 See supra note 102 and discussion.
187 See supra note 103.
sum estimates. Although these results, where the healthy expect to pay more than the unhealthy, are sensible for lump sum estimates because of the greater longevity (and thus more years of spending) for the healthy, they are inconsistent with the data on annual spending, which reports high annual spending for those in worse health. As suggested by the regression analysis below, however, this effect seems to be caused through interactions with income or education level.

Finally, we explored whether self-reported financial sophistication might be correlated with survey responses. We asked all respondents three questions to gauge financial sophistication. The first concerned their familiarity with respects to government programs and insurance plans that might cover retiree healthcare costs. The level of respondents’ self-reported familiarity on this dimension seems to have very little bearing on their estimates of monthly costs, either in terms of monthly estimates or variation in estimates. We also asked respondents about the level of attention they pay to monthly health care costs and other expenses; here, those reporting low levels of attention also reported somewhat lower median estimates of expenses than other respondents. But the most pronounced effect on monthly estimates came from our third question on financial sophistication: whether respondents had consulted with a financial planner about retirement. Those respondents reporting such a consultation had median monthly estimates of $300, as compared to $175 for those who said they had not, and also had higher estimates at the 75th and 95th percentile. While one must treat self-reported responses of this sort with caution, these results do raise the possibility that personal interventions with respect to retiree health care costs may be effective in raising individual estimates of retiree health care costs.

In an effort to explore the interactions between various correlates with respondents’ estimates, we conducted a series of regression analyses. Table Nine A reports summary results for four rudimentary models examining the correlates of average monthly cost responses. The first three models are quantile regressions (at the 25th percentile, median, and 75th percentile) and the fourth model is a trimmed OLS log formulation. For each regression, we included as independent variables gender, a dummy for age cohorts younger than 55, income quintiles, health status, educational achievement and a dummy representing consultations with financial planners as independent variables. While explaining only a small fraction of overall variation in monthly costs, all four models show consistent, statistically significant coefficients for the dummy for younger cohorts, income quintiles, educational attainment, and the financial planner dummy. The coefficients for these variables also were intuitively coherent, with higher income quartiles having large coefficients than lower income quartiles, and the magnitude of the coefficients for the financial planner dummy and educational attainment increasing for higher percentile regressions. These results are consistent with earlier findings suggesting that income and self-reported consultation with a financial planner are positively correlated with out-of-pocket cost estimates. The models also suggest that, once other factors are controlled for, respondents from younger cohorts do offer

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188 Although familiarity does not appear to be strongly associated with differences in respondent estimates, older respondents reported a much higher degree of familiarity on these dimensions than did younger respondents.

189 We utilized these functional forms to limit the influence of outliers on the analysis. As noted earlier, some respondent estimates – especially with respect to lump sum estimates – seemed unreasonably high, suggesting that perhaps some responses may have been protest bids in response to inherently difficult questions. In prior sections of our analysis we have relied on median and percentile analysis to diminish the impact of these outliers. As compared to traditional OLS regression, quantile regressions serve a similar function. The log form of the fourth model also reduces the influence of outliers as does our trimming of the top one percent of observations, which eliminates survey responses with average monthly costs over roughly $2500.
somewhat higher estimates of monthly costs than do the older cohorts, although the magnitude of those differences (on the range of $17 to $82 in the quantile regressions) do not equal the projected increases in future health costs that experts predict.\footnote{When we segmented the sample into male and female subsamples and re-ran our regressions, the coefficient for the younger cohort variables remained statistically significant for only the male subsample, suggesting that men were driving the higher cost estimates from younger cohorts reported in the text.} While the female dummy has a negative coefficient in two of the models in only one model is the coefficient statistically significant, casting some doubt on earlier results suggesting that women were making lower estimates for monthly costs than men (once controls for educational attainment and household income are included).

[insert Table 9A here]

Table Nine B presents similar regressions for lump sum estimates.\footnote{Trimming of the top one percent of lump sum estimates eliminated responses with estimates in excess of $3.5 million on the fourth model.} In many respects the results are similar to those for average monthly cost estimates. The financial planner dummy was again consistently significant in all models. The coefficients for income quintiles and younger cohorts were not as consistently statistically significant as with the monthly cost regressions, but still retained the same basic structure as the analogous coefficients in the monthly costs regressions. The female dummy did, however, behave differently in the lump sum regressions, with consistently negative coefficients in all four regressions and statistically significant coefficients for three quantile regressions. So, negative effect of gender on costs estimates identified early seems to reemerge with these lump sum regressions, suggesting that women’s estimates are more likely to fall short of men’s when dealing with life-time costs as opposed to monthly budgets.

The regression models presented in the preceding are helpful, but should be viewed with some caution. To begin with, survey responses on cost estimates are difficult to model as they skew towards higher numbers with a fairly large number of outliers. While quantile regressions, trimming, and log transformations of dependent variables all are designed to mitigate these complexities, these adjustments may not offer complete solutions. In addition, the explanatory power of the models is limited, with quite low adjusted R Squares and Pseudo R Squares in all cases. That said, the correlations with income, use of financial planners, and educational achievement seem reasonably robust.\footnote{In other regression runs not reported here, we found that respondent expectations regarding health insurance coverage were generally consistent with expert estimates of the relationship between supplemental coverage and total out of pocket costs. See discussion above. So, respondents reporting higher expectations of having Medicaid coverage had lower estimates of out of pocket costs, while those expecting Medigap coverage estimated higher costs.} Our survey respondents, taken as a whole, did recognize that wealthier respondents would face higher health care costs in retirement as a result of a combination of progressive insurance premiums, higher consumption of health care services by the more affluent, and greater longevity. The strong performance of the financial planner dummy suggests that this kind of financial education may be associated with higher estimates of retiree health care costs, although causation here is unclear. While the negative correlation between the female dummy and costs was less robust, these regressions suggest the possibility that women may well fail to
appreciate that they face higher healthcare costs in retirements and, indeed, may be systemically underestimating costs as compared to men at least with respect to their lump sum estimates.\footnote{In separate analysis of survey subsamples, we also found evidence that the higher cost estimates of younger cohorts was coming more from the estimates of the men than the estimates of women. This preliminary finding suggests that women may not be anticipating future cost increases for retiree health care as much as men are.}

D. Estimating Uncertainty: Health, Medical Inflation, Policy Change

In the final module of our survey, we divided all respondents into two separate groups and asked each group a series of questions designed to elicit their assessment of three sources of potential risk for out-of-pocket costs for health care expenses in retirement: variation in personal health experience; unanticipated medical cost growth; and changes in government policies with respect to Medicare and other government programs. As discussed earlier in our literature review, all three of the risks could be material. Variations in personal health experience could double to triple individual out-of-pocket costs above median levels, and government policy changes could as much as double them. Respondents did not identify personal health and policy changes as the most salient risks, nor did they appreciate the extent to which these risks could increase their out-of-pocket spending for health care in retirement.

1. Group One: Assessments of Concern and Severity

For half of our respondents, we asked them to make a qualitative assessment of the risk perceptions. First, we ask respondents in this group to evaluate on a four point scale how concerned they were about each of the risks. Second, we asked them if the risk should materialize, how much more they would need to budget for out-of-pocket health care costs if they wanted to be “highly confident” of having sufficient resources to cover the costs.

In this formulation, respondents seemed to identify policy changes and then medical inflation as being the greater sources of risk, but underestimate the potential magnitude of both. In terms of level of concern – summarized in Figure Six –these two risks dominated across age cohorts. Again, this response is inconsistent with expert perceptions of the relative risk, which would clearly rank variations in personal health experience, and probably also policy uncertainty, as a more significant risk than unanticipated medical inflation, especially for those at or near retirement for whom any inflation will have limited impact.

On the issue of how large of a financial impact respondents estimated that the risks could pose to their budgets, Figure Seven reports responses for Personal Health Experience (on left) and Policy Changes (on right). Nearly all respondents underestimate the magnitude of these risks, especially with regard to personal health experience risk. So, for example, on Figure Seven, only a fifth of all respondents estimated that adverse personal health experience could lead to a more than 50 percent increase in out-of-pocket costs, although expert opinion suggests those who end up in the 75\textsuperscript{th} or 90\textsuperscript{th} percentile of out-of-pocket costs are likely to spend double to triple someone at the median.\footnote{See supra note 121 and discussion.} Similarly, less than a third of respondent reported that they would need at least fifty percent more in financial

\footnote{In separate analysis of survey subsamples, we also found evidence that the higher cost estimates of younger cohorts was coming more from the estimates of the men than the estimates of women. This preliminary finding suggests that women may not be anticipating future cost increases for retiree health care as much as men are.}
resources to compensate for adverse changes in government policy even though expert views are that some current reform proposals for Medicare could have a much larger effect.\footnote{See \textit{supra} note 135 and discussion. It is possible that our respondents chose a middle option out of the five multiple choice responses. Even if they selected randomly, doing so would suggest ignorance. Furthermore, answers with regard to individual health experience were skewed more toward the second choice and policy uncertainty toward the third, which confirms less concern with individual health experience than with policy uncertainty.}

[insert Figure Seven here]

2. \textit{Group Two: Willingness to Pay}

To gain an alternative perspective on the topic of risk, we posed questions to the other half in terms of their willingness to pay to be free of each of these specific risks.\footnote{An illustrative question here read as follows: “Research suggests that health care expenses in retirement can vary considerably from individual to individual based on differences in the health of individuals and their medical needs. As a result, out-of-pocket costs for some individuals can be much higher than those of the average retiree. How much would you be willing to pay each month for an insurance policy that fully protected you from incurring out-of-pocket costs higher than those of the average retiree, regardless of your own health or medical needs?”} The results for this set of questions appear in Table Ten. As reported in this table, the median respondent was willing to pay a monthly insurance premium of about $150 to be relieved from the risk of higher out-of-pocket costs from person health experience. While it is difficult to know if this specific estimate is actuarially accurate, what is most interesting is that the willingness-to-pay responses for each of these three questions were roughly similar. While the medians for responses on willingness to pay for protection against medical inflation and willingness to pay for protection against policy changes were a bit lower ($125 and $120, respectively) than the health experience analog ($150), the distributions were roughly comparable. Certainly, there is no indication in this data that respondents overall were especially concerned about personal health experience or policy changes, indeed the latter had the lowest median and distribution ranges of the three.\footnote{The cohort on the eve of retirement, ages 60-64, did however skew somewhat higher at the top end of the distribution in their willingness to pay for insurance against policy changes and also poor personal health outcomes.} Nor was there any evidence in our results that younger workers were particularly wary about policy changes. On the other two willingness-to-pay questions, there was a modest suggestion that younger respondents placed a higher value on protection against bad personal health experience and unanticipated medical inflation than did older respondents, but even there the trends were not especially strong. Thus, our primarily take-away from this inquiry into risk assessment is that respondents did not sharply distinguish across type of risks nor were younger workers noticeably more concerned about unanticipated inflation or policy changes.

[insert Table Ten here]

To be sure, there are considerable complexities in interpreting individual assessments of financial risks, but the responses to this module of our survey suggest to us that our respondents had difficulty distinguishing among sources of risk and may in some areas substantially underestimate the extent of the potential risk, in particular with regard to their own personal health experiences.
IV. Discussion and Recommendations

This article offers a starting point for investigation of the timely and important issue of what Americans know about their likely future out-of-pocket health care expenditures. The ongoing shift in the structure of benefits and regulation to promote greater individual autonomy and decision making rests on the assumption that individuals can make good decisions. This analysis is a first step to better understanding one potential root driver of bad decisions with regard to retiree health care spending – misunderstanding of future spending needs. In Part A of this final section, we discuss what we see as the key takeaways of our research. In Part B, we build on these findings to consider solutions to improve retiree financial security through additional research, better financial literacy and planning efforts, and insurance regulatory design and policy reforms. At this point, we do not propose one particular path forward, but rather hope to identify the most productive directions for further consideration.

A. Discussion of Findings

Point One: Quality of Overall Estimates

One unexpected insight from this study is that many respondents’ estimates of likely out-of-pocket health care expenditures in retirement accord with expert estimates of likely spending. Overall, respondents offered sensible answers with regard to life expectancies and projections of increasing health care costs over retirement and in last year of life. Respondents’ estimates about likely insurance coverage in retirement were not far off actual coverage levels (although, they were somewhat overly optimistic with regard to Medicaid coverage rates and estimated future levels of employer sponsored coverage higher than most experts predict).

A substantial fraction of respondents also offered estimates of out-of-pocket expenditures in retirement that were at or above median expert estimates. This was true for both estimates of average monthly expenses and for lump sum estimates. In many instances, on the order of a quarter of respondents made cost estimates that were above the seventy-fifth percentile of expert projections. So, a substantial share of respondents’ estimates mapped into the upper end of experts’ predicted distribution of retiree health care costs. Of course, as emphasized above, we cannot be confident that the respondents who estimated higher retiree health costs are the individuals who will actually incur those costs. Still, the number of respondents giving relative high health care costs estimates was greater than we had anticipated coming into the study, and even the median estimates of our respondent estimates was closer to the median expert estimates than we had expected.

Notwithstanding foregoing, there are aspects of the overall out-of-pocket estimates that raise concerns. While 40 percent of the population estimated above expert median estimates for monthly spending, half of our respondents’ estimates were below the 25th percentile expert benchmarks. By definition if the expert estimates are accurate, at least half of those estimating costs below the 25th percentile are underestimating future costs. With regard to lump-sum targets, median responses were a half to a fifth of expert median estimates for men and women, respectively, suggesting that a very large fraction of our respondents were seriously underestimating the amount of savings they would need to accumulate in order to cover health care costs in retirement. In that sense, the quality of responses for a substantial share of our samples was poor.
On the other end of the distribution, respondents with the highest of lump sum estimates, might – if these estimates are genuine – be engaged in overestimation that discourages actual savings. What is striking is the unexpected overestimation – often by substantial amounts – of reported lump sums, as compared to implied lump sums based on life expectancies and monthly projections. Some individuals may be radically overestimating their savings needs for retiree health in a way that could discourage actual savings out of a sense of futility. This somewhat surprising finding warrants additional work and suggests that there may be a potential to show people that achieving sufficient savings might be more feasible than they imagine.

It is less clear the degree to which younger cohorts’ expectations are especially deficient. On some survey responses, younger cohorts did seem to expect higher costs, as in the case of future Medicare premiums, which is a view that would be consistent with expert expectations. However, in assessing average monthly costs of retiree health care and lumps sum estimates of required savings, younger cohorts only reported slightly greater estimates than the older cohorts. While interpretation of these responses is ambiguous, especially with respect to lump sums, our results raise the possibility that younger cohorts are materially underestimating their out of pocket costs for health care in retirement and that efforts to improve financial planning should target them not only because their estimates fail to account for health care cost increases but also because they are in a better position to successfully plan for future expenditures.

Point Two: Demographic Variation

As discussed above, respondents’ estimates varied appropriately and significantly according to only some of the factors that are predictive of future spending. The places where respondents seem least sensitive to the fact that demographic factors might cause them to have higher baseline spending suggest targeted opportunities for intervention.

Regression analysis showed our respondents’ estimates were directionally correct in some regards. For example, our higher income respondents estimated relatively higher out-of-pocket spending, which is in line with what expert studies suggest actually occurs. In addition, there was some correlation between respondents’ expected levels of insurance coverage and variations in out-of-pocket costs that experts report. However, the women in our survey showed a dramatically less acute understanding of future out-of-pocket expenditures than the men in our survey with regard to lifetimes spending estimates. Even similar estimates given by men and women would be reason for concern, in light of the evidence that women on average spend more than men out-of-pocket on health care over the course of retirement. Yet, women offered lower absolute lifetime spending estimates than men, which means that women’s estimation of spending is worse than men’s and that they don’t seem sensitive, as a whole, to the fact women spend more than their male counterparts.

Assuming our data is correct, it’s difficult to know why this gender gap exists. Our women respondents likely struggle for the same reasons that women, even college-educated women, lag behind men on measures of financial literacy and numeracy, as evinced repeatedly in studies. It is possible

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198 See supra note 192.
199 Annamaria Lusardi, Financial Literacy: An Essential Tool for Informed Consumer Choice?
many of these women have relied on another individual for household financial management. Regardless of the explanation, women are particularly financially vulnerable in retirement if they misjudge this source of significant future costs. This finding only confirms the need to close the gender gap that leaves women behind in matters of mathematics and finances, a problem with roots much deeper than we can examine here. One modest option is to focus efforts to improve financial planning on women, in particular, as examined in Part B.1. below. More ambitiously, we might reconsider the wisdom of an insurance system that leaves many women with little income in retirement but, even at the median, subject to fifty percent more spending than the typical man, before factoring in long-term care costs.

Point Three: Uncertainty and Risk

Much of the possible variability in spending – either among retirees or over time – is unpredictable. Our findings, while tentative here, suggest that people struggle to gauge the variability in spending they might face due to each of three key drivers of future spending uncertainty: (1) variation in individual health experience among retirees; (2) unanticipated medical cost growth; and (3) changes in government policies with respect to Medicare and other government programs that could increase out-of-pocket costs for some or all retirees. In other words, respondents did not understand the potential of unpredictably higher future spending.

Most – but not all – of our respondents identified all of these areas as causing concern, but they failed to effectively distinguish between the magnitude of possible risk they could face from each. In particular, it seems our respondents underestimated the risk of variation in personal health expenditures. While arguably the greatest of the three risks for anyone now nearing or in retirement, our respondents did not unambiguously identify it as a greater risk than the others and underestimated the magnitude of variability in spending they might face if they were in the upper end of the distribution. They arguably also underestimated the magnitude of potential risk from policy change, especially at a moment in time when Medicare is vulnerable to fundamental changes.

Failure to appropriately account for spending uncertainty would mean that even those retirees with spot-on median responses might be unprepared to finance future costs if any of the above risks came to fruition. For example, a retiree aware of median annual spending for someone like herself and in a position to finance median spending out of savings and social security and pension income could nonetheless face financial crisis if she experiences a serious health problem or develops a chronic condition that propels her into the 90th percentile of spenders, leading to costs double what she planned to finance. Failure to comprehend the potential implications of policy reforms on spending risk, such as major changes in Medicare and Medicaid programs, could also inhibit informed engagement in political debates on entitlement reform and related matters.

The difficulty that consumers face in comprehending and managing risk is a recurring theme in academic studies on cognitive processing and retirement planning, with work on the annuity puzzle being perhaps the most familiar example.\(^\text{200}\) In light of this work, our findings on the inability of respondents to understanding the potential levels of variability of future spending is hardly surprising. Retiree health care costs are, in essence, a negative annuity that depend on a host of imponderables including life expectancies, personal health care experience, policy changes, and changes in health care costs. It’s surprising enough that respondents were able to make plausible ballpark estimates of typical costs; it would have strained credulity had they also apprehended risks and uncertainty correctly. Still, these cognitive limitations have important implications for insurance design, regulation and policy, as discussed below.

**B. Further Research and Policy Recommendations**

Our findings suggest two distinct problems, both of which could cause retirees problems in financing health care spending in retirement. Points One and Two above reveal ways in which retirees fail to anticipate likely future expenditures for a typically retirees. The design of our system for financing retiree health care costs implicitly assumes that most retirees will plan to finance these costs. Places where we observe underestimation suggest opportunities to improve knowledge of and/or financial planning for retiree health care expenditures, as discussed in the second section below. Point Three discusses a different problem: a widespread misapprehension of level of spending variability – a problem that demands an insurance response, as discussed in the last section below. The first section addresses additional research that would help sharpen policy recommendations.

As a preliminary matter, based on what we learned in our literature review, we note the need for better collection of data on out-of-pocket healthcare costs and greater consistency in how these costs are defined and measured as foundation for any of the approaches discussed. As health care costs continue to increase and politicians debate reform proposals, policymakers need to have better data on the current distribution of out-of-pocket cost for retirees and the implications of competing reform proposals and private market solutions on these costs. The lack of consistent, quality data makes it difficult to address a health care spending problem when there is disagreement on the definition of and magnitude the problem among the experts in this field.


While policy implications of this work focus on respondents who underestimate the magnitude of retiree health care costs and the risks associated with those costs, more study into the respondents with relatively high estimates of retiree health care costs would also be valuable. While our survey design did not offer insight into how these respondents came up with estimates, there are a number of reasons why a

substantial portion of the population might have a good ballpark sense of retiree out-of-pocket health care costs and determinants of these costs. At least in the case of monthly cost estimates, our respondents may merely offer a small, nonzero guess of a couple of hundred dollars in response to a question that implied the existence of some costs. Alternatively, as health care costs and premiums are pervasive throughout life, it is possible respondents were inferring retirement costs from their own prior and current experience. Or they might also have familiarity with parents’ or acquaintances’ experience with Medicare and other forms of supplemental retiree coverage. Or, consistent with our finding that consultations with financial planners are positively correlated with cost estimates, these respondents may have benefitted from financial education of some sort. Understanding the thought processes of individuals who came up with costs estimates within the range of expert predictions would inform how to reproduce similar results with others.

Another important question to explore is the extent to which higher estimates of retiree health care costs is associated with higher levels of dedicated savings for these costs or other forms of financial planning that make these individuals better prepared to finance these expenditures in retirement. As explored below, the relationship between knowledge and savings is contested, but it would be valuable to know whether specific knowledge of retiree health care costs is positively associated with actual behavior that makes individuals better prepared to bear those costs. Similarly, it would be valuable to ascertain whether severe overestimation of retiree health costs dampens retirement savings on the grounds, suggested above, that overly high estimates provoke savings futility. In short, further study of the relationship between estimates of retiree health care costs and actual financial planning behavior would provide a crucial link for future reforms.

2. Improving Financial Planning: Opportunities and Challenges

To the extent retirees fail to understand (and impliedly to plan for) typical expenditures, there may be opportunities to improve financial planning through either financial education or by creating incentives for individuals to increase health-related savings (even in light of imperfect knowledge or cognitive biases against savings). While our findings suggest that the overall financial literacy gap with regard to out-of-pocket costs may be smaller than we anticipated for at least some segments of the population, our results suggest some areas in which well-targeted efforts might help people plan better for health care spending in retirement.

For example, women, in particular, might be a good target audience. Helping women better plan for retiree health care expenditures is critical in light of the fact that women live longer than men and will need to manage out-of-pocket spending for more years and, for those who outlive a spouse or partner, on their own. Likewise, efforts focused on younger cohorts (40-60 year olds) might also be valuable for those in these cohorts in a position to save more. The fact that younger respondents’ expectations may not take account of growth in medical care costs poses concern because these respondents, who are still in their earning years, are in the best position to save for future expenditures. Especially if interest rates remain low and health care costs continue to outpace GDP growth, they may need to save more than anticipated.

Our findings do not point toward any one particular approach to improve planning, and a healthy debate exists in the literature over whether financial education or choice architecture approaches that shape behavior based on defaults or incentives are more welfare promoting. Either (and perhaps both
together) might be effective in addressing the knowledge gaps we observed. One approach is to use financial education to bring expectations more in line with expert estimations. Especially to the degree people might be especially sensitive to having sufficient savings for future health care needs, priming them to consider the magnitude of these costs could be an effective way to motivate more saving. Supporters of financial education approaches – rather than defaults – advocate that better information allows people to make decisions based on individual preferences, rather than presuming one size fits all solutions.

However, information alone might not be enough to improve planning for some individuals. The results of financial education programs undertaken by employers and the government have been mixed and there is a healthy skepticism among some scholars of their value. The anchoring in our treatments, designed to simulate financial education, had surprising little effect on total monthly costs or lump sum estimates, which suggests that education would have to consist of more than simple reports on typical costs. Finally, if the health care financial literacy gap we are observing is part of a larger innumeracy problem, especially for women, efforts to improve planning will require improving numeracy so that women have both the information and the tools to make good decisions.

These limitations might advocate for use of defaults or incentives to promote better financial planning for health care expenditures, as has shown effective with regard to retirement savings overall. Some recent financial literacy work has also experimented with an intermediate approach, using planning aids that guide people through financial decisions at critical decision moments – instead of using either generalized education seminars or strong defaults. With the knowledge that a portion of the population underestimates future expenditures, it is plausible that such approaches to promote health savings would be beneficial. Further research would have to investigate which specific policies would in fact increase savings, rather than simply cannibalize other retirement savings, and whether such policies are welfare-promoting overall.

A major limitation to any of these approaches is the degree to which those underestimating expenditures are unable to save more or much more than they currently do without undesirable tradeoffs, which is likely true for at least part of our respondent population. As noted above, we saw a correlation between lower estimates and lower income levels, and at least one study suggests that health care savings

201 De Nardi et al., supra note 12, at 72-73 (describing strong effect of future health care spending needs on savings).
202 And, of course, individuals do not need to be primed to save an amount sufficient to cover total retiree health care costs. As a result of the Social Security, most American have some amount of annuity income in retirement and a portion of that income could be used to support monthly costs. So sensible financial planning for retiree health care costs might consist of a combination of precautionary savings and budgeted monthly costs.
203 Amir & Lobel, supra note at 17, at 7 (“perhaps more than with some policy fields … health policy cannot be simply about directing healthy behavior but must aim for an understanding of how individuals reason and decide.”).
204 Lusardi, supra note 13, at 20-23 (describing the mostly ineffective results of financial education programs).
206 See studies supra note 17. See also Lusardi, supra note 13, at 23-26 (discussing studies showing the effectiveness of default programs for savings, including the lauded Save More Tomorrow (SMarT) program devised by Richard Thaler and Shlomo Benartzi that increases default savings rates as employees income increases).
207 Lusardi, supra note 13, at 26-20 (discussing efforts to simplify decisions to save, without using strong defaults).
incentives have limited effect for some of the population because of income constraints.\(^\text{208}\) Even with these limitations, however, if efforts have some effect,\(^\text{209}\) they would not only reduce unanticipated financial insecurity but also might reduce avoidable reliance on health care safety nets, including Medicaid.


Addressing respondents’ deficiency in understanding potential spending uncertainty is more complex and clearly requires more than education. Studies show that individuals chronically struggle to understand risk, and that risk-education efforts are an uphill battle.\(^\text{210}\) Furthermore, for many low to middle-income Americans, knowing that they might face future health care expenditures two or three times higher than median expenditures will do little to help them save for expenditures at these levels and, in our current insurance system, few can identify and afford sufficient insurance protection. We briefly describe two possible approaches to address misperceptions of spending uncertainty, and intend to explore these approaches and others further in future work.

a) Low Risk Insurance Policies: Promoting Transparency and Uptake

To the extent that insurance options that protect against catastrophic spending are available and affordable, there may be opportunities to help consumers better choose supplemental insurance that offers more protection against spending variability.\(^\text{211}\) An easy first step would be to increase enrollment among the two-thirds of the eligible population not enrolled in the Medicare Savings Programs, discussed above, which limit Medicare premiums and cost-sharing.\(^\text{212}\)

For others, a starting point might be requiring greater transparency with regard to spending variability in insurance policies. Individuals must choose among Medicare options and supplement insurance programs without meaningful guidance as to how those choices will mitigate the risk of debilitating health care expenditures in retirement. As noted above, the menu of choices is overwhelming for even a savvy consumer – both in terms of opting between different forms of supplemental coverage (e.g., Medicare Advantage, Medigap, Prescription Drug Coverage) and among different private plans within each of these forms of supplemental coverage.

Certain regulatory reforms could make choosing among these options easier. As things currently stand, insurance regulation requires disclosure of certain information, such as deductibles and co-pays and

\(^{208}\) Fishman, *supra* note 5, at ix (reporting the effects incentives programs have on savings for low-income populations).

\(^{209}\) Id.

\(^{210}\) See also Michael Bond, *Risk School*, 461 Nature 1189 (2009) (describing debate over whether people can be taught to understand risk and make well-informed decisions based on it or whether it is more appropriate for regulators to guide consumers to better risk decisions through a “nudge approach”).

\(^{211}\) See, e.g., On Amir & Orly Lobel, Risk Management for the Future: Age, Risk and Choice Architecture 23 (discussing use of choice architecture to help especially older people make more future oriented, less risky choices) (draft manuscript on file with author) [hereinafter Amir and Lobel forthcoming].

annual and lifetime limits, but does not make transparent residual out-of-pocket payment risk that falls to policy holders at different levels of health care utilization. This means that even astute, risk-averse individuals are unable to identify the lowest-risk policies. What consumers need to understand to manage spending risk is the distribution of individual costs under various supplemental insurance options. For example, supplemental Medigap policies could provide a graph that illustrates the out-of-pocket spending distribution among all enrollees in a particular plan. The buyer could compare his out-of-pocket exposure at the 25th, 50th, 75th, and 90th percentile of one plan against his exposure at the same levels of spending in another. Regulators could require the collection and dissemination of this data (as well as determine how to display it in ways that help consumers best interpret the data). If this data resonated with consumers, spending risk could become a key criterion in choosing these policies and insurers might offer more policies that limit exposure to levels consumers prefer.

On the other hand, as noted above, work in behavioral economics suggests that risk is a concept that is generally not understood, and decisions with regard to uncertain future spending are particularly replete with cognitive error. Accordingly, greater transparency may not increase uptake of lower-risk policies if individuals fail to consider the full benefit of these policies. To promote greater financial security in an uncertain environment, regulatory approaches could guide people to adopt supplemental policies with more catastrophic risk protection. Medicare has recently begun to steer retirees toward higher-rated Medigap policies; one could imagine using risk protection as a criteria for such steering.

b) Medicare Policy Reforms

Alternately, Medicare and supplemental insurance could be redesigned to simplify choices and to reduce spending risk across the board, rather than to shape insurance choices among problematic options. The EBRI benchmark study projects a 2020 retiree with wraparound Medicare (including supplemental Plan F “catastrophic” coverage) will spend over $300,000 over retirement if at the 90th percentile of spending. Getting to these high levels likely requires a combination of many sources of high out-of-pocket spending, including Part B, D, and Medigap premiums and significant spending on prescription drugs and services not covered by insurance. Few Americans, even if armed with perfect information and comprehension of that information, could manage such levels of out-of-pocket spending.

Regulators could redesign basic Medicare and Medigap policies to simplify coverage and reduce exposure to high out-of-pocket costs, by trading off some first dollar coverage for more catastrophic protection (so long such tradeoffs don’t have any substantial, negative impact on retiree health). For example, one proposal for “Medicare Extra,” offers simpler way to fill Medicare’s gaps for all Medicare beneficiaries, which the authors’ analysis claims will limit exposure without increases to governmental or

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213 PPACA attempts to address this shortcoming for working-age populations, by requiring reporting on the actuarial value of policies that will be sold in the new health exchanges; despite good intentions, actuarial value may be too complicated a measure for most consumers to translate into likely personal spending. Ryan Lore et al., Choosing the “Best” Plan in a Health Insurance Exchange: Actuarial Value Tells Only Part of the Story, COMMONWEALTH FUND ISSUE BRIEF (August 2012).

214 THALER & SUNSTEIN, supra note 17, at 72 (describing cognitive biases that might produce undesirable results even in the face of perfect knowledge).

215 [insert citation to news article]
individual out-of-pocket spending.\textsuperscript{216} PPACA calls for review of certain Medigap plans to increase cost sharing to reduce usage of Medicare Part B physician services.\textsuperscript{217} In response to this provision, proposals have emerged recently that would not only restrict first-dollar Medigap coverage but also simplify Medicare cost sharing.\textsuperscript{218} Any of these proposals would make it easier for beneficiaries to navigate Medicare and supplemental coverage successfully.

At the very least, in an environment where we expect individuals to manage complex financial planning, policymakers should strive to make it easier – not harder – for them to make successful choices. Changes to Medicare and Medicaid policy may be necessary in the coming years to stem the increasing share of governmental spending on health care. Controlling public expenditures on retiree health care costs is a critical component to restoring balance to federal fiscal policies. Many reform proposals contemplate shifting a portion of these costs back to retirees, either through reducing the generosity of Medicare payments or scaling back the scope of Medicaid support for the elderly. While these proposals are often discussed in terms of aggregate deficit reduction or the cost shifting to typical retirees, attention must also be given to implications of these reforms on the risks imposed on individual retirees with high personal medical costs. Medicaid currently provides a safety net for the poorest retirees, but middle-class retirees face considerable risk of high spending that they do not fully understand, and would likely struggle to manage, even if they did understand it.\textsuperscript{219} Medicare reform efforts should not increase this risk of unpredictable, high spending. Beyond scoring the aggregate financial effects of reforms, policy analysts should also take into account the distributional consequences for various populations. Ideally, entitlement reforms should be designed with protections to mitigate the risks imposed on individual retirees. At a minimum, public debate over entitlement reform should be informed through clear analysis of the distributional consequences of competing reform proposals on a population that is unlikely to understand how such reforms affect individual spending risk.

\textsuperscript{216} Karen Davis et al., \textit{Medicare Extra: A Comprehensive Benefit Option for Medicare Beneficiaries}, Health Affairs Web Exclusive (2005).
\textsuperscript{217} PPACA § 3210 (2010).
\textsuperscript{218} National Health Policy Forum, \textit{supra} note 59, at 11 (describing proposals from the Simpson-Bowles commission, the Congressional Budget Office, and the Obama Administration); See also Health Affairs, Health Policy Brief: Putting Limits on ‘Medigap.’ (September 21, 2011).
\textsuperscript{219} See Fishman, \textit{supra} note 5, at ix.
Box on Self-Assessed Life Expectancies

We asked all respondents a series of questions about their own assessments of their life expectancies. We solicited this information to explore the possibility that respondents might be making systematic errors regarding their own life expectancies and that such errors might be effecting their expectations about total lifetime health care costs during retirement. As it turned out, respondents as a group offered assessments of life expectancies that fairly closely match responses obtained in other recent academic work. Figure Eight summarizes expectations for survivorship.

[insert Figure Eight here]

In our study, the median respondent reported an 80 percent likelihood of living past 65, a 70 percent likelihood of living past 75, a 50 percent likelihood of living past 85 and a 10 percent likelihood of living past ninety five. These median values slightly underestimate the likelihood of surviving to 65 and 75 (which Social Security actuaries currently put at approximately 92 percent and 75 percent), but somewhat overestimate the likelihood of living beyond 85 (which Social Security actuaries estimate in the range of 43 percent). Our median responses for surviving past 95 closely match expert views (9 percent). Respondents were directionally accurate in reporting longer life expectancies for women than for men. On balance then, these self-assessed life expectancies do not seem to be a major source of distortion in respondent’s ability to estimate health care costs in retirement, though their underestimation of the likelihood of survivorship to and through the first decade of retirement may dampen their lump sum estimates to some degree.

220 Estimates on life expectancy are admittedly difficult to solicit in survey form, and the framing of the questions can have an effect on responses, as reported in a recent study in John W. Payne et al., Life Expectancy as a Constructed Belief: Evidence of a Live-to or Die-by Framing Effect, draft dated 12/24/2011. Questions framed as the probability of “living to” a particular age generate higher average estimates than those framed in terms of “dying by” that same age. Id. at 4. Under the “living to” frame in the Payne study, respondents estimated 84 percent probability of living to age 65, 70 percent probability of living to age 75, 51.5 percent probability of living to age 85, and 30 percent probability of living to age 95. Id. at 27. When compared with actual estimates of life expectancy, based on Social Security Administration data and adjusted to each respondent’s age and gender the “living to” frame produced subjective estimates closer to the actual estimates than the “dying by” frame at ages 65 and 75, equally accurate at 85, and less accurate at 95, when both frames lead to overly optimistic responses. Id. at 28; table with precise data on file with author. Accordingly, we adopted this “living to” frame to survey respondents’ anticipated life expectancy.

Appendix I: Tables and Figures

### Table Three: Basic Demographics of Total Sample and Key Subsamples

(Weighted data)

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<th>Demographics</th>
<th>N</th>
<th>Age</th>
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<th>Married</th>
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<th>Unemployment Rate</th>
<th>White</th>
<th>Highest Educational Achievement**</th>
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<td>291</td>
<td>57.4</td>
<td>0.6</td>
<td>0.5</td>
<td>9.0</td>
<td>0.1</td>
<td>0.8</td>
<td>9.6</td>
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<tr>
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<td>57.3</td>
<td>0.5</td>
<td>0.7</td>
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<td>10.5</td>
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<tr>
<td>Mean</td>
<td>11.3</td>
<td>0.5</td>
<td>0.5</td>
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<td>0.2</td>
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<td>Standard Deviation</td>
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<td>0.5</td>
<td>0.8</td>
<td>14.0</td>
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<td>Fourth Quintile</td>
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<td>0.3</td>
<td>2.1</td>
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* Under the ALP income classification system, 4 represents household incomes of $10,000 to $12,499; 5 represents $12,500 to $14,499; 6 represents $15,000 to $19,999; 7 represents $20,000 to $24,999; 8 represents $25,000 to $29,999; 9 represents $30,000 to $34,999; 10 represents $35,000 to $39,999; 11 represents $40,000 to $49,999; 12 presents $50,000 to $59,999; 13 represents $60,000 to $74,999; 14 represents $75,000 to $99,999; 15 represents $100,000 to $124,999; 16 represents $125,000 to $199,999; and 17 represents $200,000 or more.

** Under the ALP education classification system, 9 reflects a high school graduate; 10 reflects some college but no degree; 11 reflects an associate degree in a college occupational/vocational program; 12 reflects an associate degree in a college academic program; and 13 reflects a bachelor’s degree.

*** Respondents in the first income quintile had household incomes of less than $25,000; those in the second quintile household incomes between $25,000 and $39,999; those in the third quintile household incomes between $40,000 and $74,999; those in the fourth quintile household incomes between $75,000 and $99,999; and those in the fifth quintile household incomes $100,000 and higher.
### Table Four: Retiree Health Insurance Coverage Expectations by Cohort and All Respondents

(estimated likelihood of coverage under various insurance programs)

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<th>Veterans Administration</th>
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<td>SD</td>
<td>Mean</td>
<td>SD</td>
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<td>45</td>
<td>34</td>
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<td>55-59</td>
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<td>74</td>
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<td>47</td>
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<tr>
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<td>26</td>
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<td>89</td>
<td>22</td>
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<td>70-74</td>
<td>106</td>
<td>88</td>
<td>24</td>
<td>25</td>
<td>38</td>
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<td>75-80</td>
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<td>22</td>
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<td>29</td>
<td>38</td>
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<tr>
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<td>95 percent</td>
<td>15 percent*</td>
<td>33 percent *</td>
<td>17 percent*</td>
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* Reflects Percentage of Coverage of Medicare Beneficiaries.

### Table Five: Expectations as to Insurance Premiums for Respondents in Treatments B and Treatment C*

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<th>SD</th>
<th>Ranges Suggested in Anchoring for Treatment C**</th>
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<tr>
<td>Total Medicare Premiums</td>
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<td>30</td>
<td>98</td>
<td>120</td>
<td>250</td>
<td>500</td>
<td>211</td>
<td>253</td>
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<td>0</td>
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<td>150</td>
<td>206</td>
<td>106</td>
<td>173</td>
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<td>Employer Sponsored Premiums</td>
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<td>0</td>
<td>0</td>
<td>55</td>
<td>200</td>
<td>450</td>
<td>149</td>
<td>255</td>
<td>n.a.</td>
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<td><strong>Treatment C</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
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</table>
| Total Medicare Premiums | 562    | 50       | 100      | 135      | 200      | 350      | 259      | 1019     | $96 to $115 for typical basic Medicare Premium plus an average of $40 for typical Part D Prescription Drug Coverage
| Medigap Premiums     | 229    | 25       | 50       | 100      | 185      | 250      | 135      | 141      | Considerable variation in policy types, but majority of monthly medigap premiums range between $50 and $200 |
| Employer Sponsored Premiums | 342    | 0        | 80       | 165      | 200      | 330      | 300      | 1579     | Average Participant Costs for Those Over 65 roughly $167 |

* Estimated Requested Only for Respondents Who Indicate Some Possibility of Maintaining Insurance Coverage at Some Point in Retirement.

** See Appendix B for Additional Detail on Anchoring.
### Table Six: Average Monthly Cost Estimates

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<th>p75</th>
<th>p90</th>
<th>Mean</th>
<th>SD</th>
<th>Benchmark Ranges from Literature Review</th>
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<td><strong>By Treatment</strong></td>
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<td></td>
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<td></td>
<td></td>
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<td>Treatment A</td>
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<td>75</td>
<td>200</td>
<td>400</td>
<td>700</td>
<td>598</td>
<td>6917</td>
<td>2020 Benchmarks: $204 at 25th percentile; $274 at the Median; $413 at the 75th percentile; and $606 at the 90 percentile.</td>
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<tr>
<td>Treatment B</td>
<td>577</td>
<td>33</td>
<td>83</td>
<td>200</td>
<td>417</td>
<td>717</td>
<td>345</td>
<td>467</td>
<td></td>
</tr>
<tr>
<td>Treatment C</td>
<td>565</td>
<td>30</td>
<td>98</td>
<td>217</td>
<td>400</td>
<td>633</td>
<td>389</td>
<td>1440</td>
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<td><strong>By Age Cohort</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-44</td>
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<td>45</td>
<td>83</td>
<td>200</td>
<td>417</td>
<td>900</td>
<td>366</td>
<td>467</td>
<td>2040 Benchmarks: $383 at 25th percentile; $518 at the Median; $788 at the 75th percentile; and $1164 at the 90 percentile.</td>
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<td>770</td>
<td>560</td>
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<tr>
<td>50-54</td>
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<td>200</td>
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<td>700</td>
<td>336</td>
<td>474</td>
<td>2030 Benchmarks: $293 at 25th percentile; $381 at the Median; $571 at the 75th percentile; and $838 at the 90 percentile.</td>
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<tr>
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<td>92</td>
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<td>700</td>
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<td>2020 Benchmarks: $304 at 25th percentile; $274 at the Median; $413 at the 75th percentile; and $606 at the 90 percentile.</td>
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<td>505</td>
<td>279</td>
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<td>70-74</td>
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<td>50</td>
<td>150</td>
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<td>500</td>
<td>235</td>
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<td>2010 Benchmarks: $159 at 25th percentile; $215 at the Median; $330 at the 75th percentile; and $488 at the 90 percentile.</td>
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<td>217</td>
<td>350</td>
<td>600</td>
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<td>394</td>
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<tr>
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### Table Seven: Lump Sum Estimates

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<td><strong>By Treatment</strong></td>
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<td>2020 Benchmarks for Men: $109,000 at the Median; $198,000 at the 75th percentile; and $313,000 at the 90 percentile.</td>
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<td>40-44</td>
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<td>2020 Benchmarks for Women: $156,000 at the Median; $330,000 at the 75th percentile; and $537,000 at the 90 percentile.</td>
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<td>2010 Benchmarks for Men: $65,000 at the Median; $118,000 at the 75th percentile; and $187,000 at the 90 percentile.</td>
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Table Eight: Average Monthly Cost Estimates by Gender, Health Status, Income Quintiles and Financial Sophistication

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<td>100</td>
<td>200</td>
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Please do not cite or distribute without permission.
Table Nine A: Examining the Correlates of Average Monthly Cost Estimates with Quantile Regressions and Trimmed and Log OLS

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<tr>
<th></th>
<th>(1) 25th Percentile</th>
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<th>(3) 75th Percentile</th>
<th>(4) Log Lump Sum Trimmed</th>
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Standard errors in parentheses
Models One to Three utilize Quantile Regressions to estimate the coefficients; Model Four utilizes OLS. Quantile Regressions utilize unweighted data.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Table Nine B: Examining the Correlates of Lump Sum Estimates with Quantile Regressions and Trimmed Log OLS

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<th>(1) 25th Percentile</th>
<th>(2) Median</th>
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Observations: 1656  1656  1656  1637
Adjusted $R^2$ / Pseudo $R^2$: 0.001  0.003  0.004  0.122
F: 17.056

Standard errors in parentheses
Models One to Three utilize Quantile Regressions to estimate the coefficients;
Model Four utilizes OLS. Quantile Regressions utilize unweighted data.

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table Ten: Willingness to Pay for Protection Against Three Risks

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<th>p10</th>
<th>p25</th>
<th>Median</th>
<th>p75</th>
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<td>20</td>
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<td>500</td>
<td>341.0</td>
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Figure One: Expectations as to Medicare Premiums by Age for Treatments B & C

Figure Two: Average Monthly Cost Estimates by Age Cohort
Figure Four: Implied Lump Sum (1.5 Discount) Estimates by Age Cohort

Figure Five: Lump Sum Estimates by Income Quintile
Figure Six: Reported Concerns Regarding Risks

Figure Seven: Expectations on Budget Increases
Figure Eight: Expected Likelihood of Survival Past Various Ages
Appendix II: Survey Instrument

The survey instrument had eight sections and three different treatments. Not all treatments contained questions from all eight sections or included all available questions within each section. All participants received the same introductory questions within Section 1. Participants were randomly assigned to one of three basic Treatments. Additionally, participants were randomly assigned one of the two sets of questions in Section 8. Below is the survey language of Section 1, followed by the language used for each treatment from Sections 2-7, and then the language of Section 8. Italicized words are explanatory but were not included in the actual survey text. Language within brackets refers to conditional questions.

Section 1: Introductory Questions

Introduction

In this survey, we will be asking about health care costs in retirement. But first we want to start with a few questions about your own health and financial planning.

Question 1

First, how would you characterize your health now?

Answers:
1 Excellent
2 Very Good
3 Good
4 Fair
5 Poor

Question 2

Are you familiar with government programs and other insurance plans that might cover your health care expenses in retirement (with 10 being extremely familiar and 1 being not very familiar)?

Answers: scale from 1-10

Question 3

How much attention do you give to monthly health care costs and other expenses (with 10 being a lot of attention and 1 being not very much attention)?

Answers: scale from 1-10

Question 4

Have you ever consulted a financial planner about your retirement?

Answers:
1 Yes
2 No
3 Don’t Know/Can’t Remember

TREATMENT A

Section 2: Insurance Coverage

Introduction

In this survey, we want to find out how much you expect to pay for health care in retirement. We are interested in your out-of-pocket costs. Out-of-pocket costs are any expenses that you pay yourself. In
addition to any direct payments, these costs include insurance premiums for government programs and other health insurance plans. Out-of-pocket costs also cover deductibles and co-pays. Out-of-pocket costs do not include payments made on your behalf or reimbursed by government programs or other insurance plans. In all cases, we are asking about your own personal health care costs in retirement. Do not include health care costs of other members of your household. Unless otherwise indicated, please do not include in your estimates the cost of long-term residential health-care services (such as extended stays in nursing homes) or premiums for long-term health care insurance. Some questions ask for estimates about costs in the future. Please do not attempt to adjust your estimates to reflect price increases from overall inflation. Just make your estimates using the value of money today.

Section 3: Life Expectancy

Introduction

Planning for retirement is hard because we do not know how long we will live. We would now like to get a better sense of how you think about your own life expectancy. We would like to know how likely you think it is that you will live beyond certain ages. If you are very confident you will live beyond a certain age, you should click on the right side of the ruler, towards the upper end of the range. If you are less confident you will live beyond the age, you should click on the left side of the ruler and the lower end of the range.

Question 1 [asked if age < 65]
How likely do you think it is that you will live beyond the age of 65?
Answer choices: probability range from 1 to 100

Question 2 [asked if age < 75]
How likely do you think it is that you will live beyond the age of 75?
Answer choices: probability range from 1 to 100

Question 3 [asked if age < 85]
How likely do you think it is that you will live beyond the age of 85?
Answer choices: probability range from 1 to 100

Question 4 [asked if age < 95]
How likely do you think it is that you will live beyond the age of 95?
Answer choices: probability range from 1 to 100

Question 5 [asked if age < 105]
How likely do you think it is that you will live beyond the age of 105?
Answer choices: probability range from 1 to 100

Section 5: Out-of-Pocket Cost Expectations

Introduction

For the next questions, we would like you to estimate your total monthly out-of-pocket costs in retirement. Your estimates should include all premiums for any government programs or health care insurance plans. You should also include other out-of-pocket costs for health care expenses that you pay directly. Recognizing that these expenses may vary from month to month, please estimate your average monthly expenses.

Question 1
What do you expect your total monthly out-of-pocket costs to be on average? Please give your response in terms of dollars per month.

*Answer choices: any number*

**Question 2**

It may be hard to think about this, but during the final year of your life, what do you expect your total monthly out-of-pocket costs to be on average? Please give your response in terms of dollars per month.

*Answer choices: any number*

**Section 6: Lump Sum Estimates**

**Question 1**

In planning for retirement, some individuals like to think in terms of how much money they would need to save by the time they turn 65 in order to have enough money to cover out-of-pocket costs in retirement. Imagine that you were asked to give advice to someone with similar preferences and health characteristics as your own. If such a person wanted to have enough money to cover a reasonable estimate of their total out-of-pocket costs for health care in retirement, how much do you think they would need to have set aside? Please give your answer in terms of the total amount of dollars needed at age 65.

*Answer choices: any number*

[If the answer given was less than $1,000, the survey displayed the following prompt:

Are you sure savings of only ____ at 65 would be enough to cover out-of-pocket costs in retirement? Please go back and check your answer.]

**Section 7: Long-Term Care**

**Introduction**

The following questions concern the costs of long-term residential health care services, such as nursing home care or an assisted living facility. Long-term residential health care services include extended stays in nursing homes or assisted living facilities and also extended assistance with activities of daily living (eating, dressing or bathing) at home by home health aides.

**Question 1**

If you were to maintain a separate insurance policy for long-term residential health care services in retirement, how much do you think the policy would cost for someone like you? Please give your estimate in terms of dollars for a monthly premium.

*Answer choices: any number*

**Question 2**

If you were not to maintain a separate insurance policy for long-term residential health care services, how much would you expect your out-of-pocket costs to be for a month of residential nursing home care?

*Answer choices: any number*

**Section 8A: Risk Factors – Insurance**

**Introduction**
In this final set of questions, we ask you to consider several factors that might increase your out-of-pocket costs for health care in retirement and to consider how much you would be willing to pay each month in order to eliminate these risks.

**Question 1**

Research suggests that health care expenses in retirement can vary considerably from individual to individual based on differences in the health of individuals and their medical needs. As a result, out-of-pocket costs for some individuals can be much higher than those of the average retiree. How much would you be willing to pay each month for an insurance policy that fully protected you from incurring out-of-pocket costs higher than those of the average retiree, regardless of your own health or medical needs?

**Question 2**

In recent years, health care costs have increased faster than the overall rate of inflation, and some have expressed concern that health care costs may continue to increase faster than overall inflation. How much would you be willing to pay each month for an insurance policy that fully protected you against any unexpected acceleration in the rate of inflation of health care costs?

**Question 3**

In recent years, policy analysts have been discussing whether changes in Medicare and other government programs will be necessary to address the problems of federal government deficits. Some have expressed concern that such changes could reduce government support for retiree health care and increase the amount that retirees must themselves pay for health care costs. How much would you be willing to pay each month for an insurance policy that fully protected you from incurring additional out-of-pocket costs as a result of any changes in Medicare or other government programs?

**Section 8B: Risk Factors – Qualitative**

**Introduction**

In this final set of questions, we ask you to consider various factors that might increase your out-of-pocket costs for health care in retirement.

**Question 1**

Research suggests that health care expenses in retirement can vary from individual to individual based on differences in the health of individuals and their medical needs. How concerned are you that your own out-of-pocket costs might be higher than average based on your own health and medical needs?

*Answer choices:*

1. Not concerned at all
2. A little concerned
3. Quite concerned
4. Extremely concerned

**Question 2**

If your personal health care expenses in retirement do end up being higher than average as a result of your own health and medical needs, how much more do you think would you need to budget to be highly confident that you would have enough to cover your out-of-pocket costs?

*Answer choices:*

1. A little more (less than 5 percent)
2. A reasonable amount more (5 to 25 percent)
3 A substantial amount more (25 to 50 percent)
4 A large amount more (50 to 100 percent)
5 An extremely large amount more (over 100 percent)

**Question 3**

In recent years, the price of health care has increased faster than the overall rate of inflation, and some have expressed concern that the price of health care may continue to increase faster than overall inflation. How concerned are you that faster rates of inflation for the price of health care will increase your out-of-pocket costs in retirement?

*Answer choices:*

1 Not concerned at all
2 A little concerned
3 Quite concerned
4 Extremely concerned

**Question 4**

In the event that the price of health care does rise faster than overall inflation, how much more do you think you would need to budget to be highly confident that you would have enough to cover your out-of-pocket costs in retirement?

*Answer choices:*

1 A little more (less than 5 percent)
2 A reasonable amount more (5 to 25 percent)
3 A substantial amount more (25 to 50 percent)
4 A large amount more (50 to 100 percent)
5 An extremely large amount more (over 100 percent)

**Question 5**

In recent years, policy analysts have been discussing whether changes in Medicare and other government programs will be necessary to address the problems of federal government deficits. Some have expressed concern that such changes could reduce government support for retiree health care and increase the amount that retirees must themselves pay for health care costs. How concerned are you that such changes might increase your out-of-pocket costs in retirement?

*Answer choices:*

1 Not concerned at all
2 A little concerned
3 Quite concerned
4 Extremely concerned

**Question 6**

If government support for retiree health care is reduced in coming years, how much more do you think you would need to budget to be highly confident that you would have enough to cover your out-of-pocket costs in retirement?

*Answer choices:*

1 A little more (less than 5 percent)
2 A reasonable amount more (5 to 25 percent)
3 A substantial amount more (25 to 50 percent)
4 A large amount more (50 to 100 percent)
5 An extremely large amount more (over 100 percent)

TREATMENT B  [Same as Treatment A, but with these Additional Questions]

Section 2: Insurance Coverage

Question 1
Do you expect to be covered by Medicare in retirement?

Answer choices: percentage range from 0-100

[If the answer chosen was greater than zero, the survey displayed the following questions:

As you may know, Medicare offers two forms of basic health care coverage for most Americans over the age of 65: Traditional Medicare and Medicare Advantage. In addition, several years ago a new Medicare Part D Prescription Drug coverage became available. If you were to maintain Medicare coverage in retirement, which form of basic health care coverage would you expect to elect:

Answer choices:
1 Traditional Medicare Coverage
2 Medicare Advantage Coverage
3 Don’t Know or Haven’t Decided

Would you expect to add Medicare Part D Prescription Drug Coverage?

Answer choices:
1 Yes
2 No
3 Don’t Know or Haven’t Decided]

Question 2
Beyond Medicare, do you expect to be covered by an Employer Sponsored Retiree Health Care Policy in retirement?

Answer choices: percentage range from 0-100

Question 3
Beyond Medicare, do you expect to be covered by a Medigap Supplement Insurance Policy in retirement other than one sponsored by a former employer?

Answer choices: percentage range from 0-100

Question 4
Do you expect to be covered by Medicaid in retirement?

Answer choices: percentage range from 0-100

Question 5
Do you expect to be covered by Veterans Administration health care benefits in retirement?

Answer choices: percentage range from 0-100
Section 4: Monthly Premium Cost Expectations

Question 1

As you may know, Medicare beneficiaries are required to pay monthly premiums for various kinds of coverage. If you were to maintain Medicare coverage, how much would you expect your total monthly Medicare premiums to be during your retirement years? Please give your response in terms of dollars per month. (please round up to the nearest dollar)

Answer choices: any number

Question 2 [asked if likelihood of having Employer Sponsored Retiree Health Care coverage > 0]

In response to a previous question, you indicated that you might have Employer Sponsored Retiree Health Care coverage in retirement. As you may know, some Employer Sponsored Retiree Health Care coverage requires participants to pay monthly premiums. If you do maintain Employer Sponsored Retiree Health Care coverage in retirement, how much do you expect your monthly premiums to be for this coverage? Please give your response in terms of dollars per month.

Answer choices: any number

Question 3 [asked if likelihood of having Medigap coverage > 0]

In response to a previous question, you indicated that you might have Medigap Supplement Insurance coverage in retirement. If you do maintain Medigap Supplement Insurance coverage in retirement, how much do you expect your monthly premiums to be for this coverage? Please give your response in terms of dollars per month.

Answer choices: any number

Section 5: Out-of-Pocket Cost Expectations

Introduction

For the next questions, we would like you to estimate your total monthly out-of-pocket costs for health care expenses at various times in retirement. Your estimates should include all premiums for any government programs or health care insurance plans. You should also include other out-of-pocket costs for health care expenses that you pay directly. Recognizing that these expenses may vary from month to month, please estimate your average monthly expenses.

Question 1 [asked if age < 65]

When you are 65, what do you expect your total monthly out-of-pocket costs for health care expenses to be on average? Please give your response in terms of dollars per month.

Answer choices: any number

[If respondent was 65 years old or older, the survey displayed the following question instead:

Since you turned 65, what would you estimate your total monthly out-of-pocket costs for health care expenses have been on average? Please give your response in terms of dollars per month.

Answer choices: any number]

Question 2 [asked if age < 75]

When you are 75, what do you expect your total monthly out-of-pocket costs for health care expenses to be on average? Please give your response in terms of dollars per month.
Question 3 [asked if age < 85]
When you are 85, what do you expect your total monthly out-of-pocket costs for health care expenses to be on average? Please give your response in terms of dollars per month.

Answer choices: any number

Question 4
It may be hard to think about this, but during the final year of your life, what do you expect your total monthly out-of-pocket costs to be on average? Please give your response in terms of dollars per month.

Answer choices: any number
and $330 a month for a retiree younger than age 65. If you do maintain Employer Sponsored Retiree Health Care coverage in retirement, how much do you expect your monthly premiums to be for this coverage? Please give your response in terms of dollars per month.

**Question 3 [asked if likelihood of having Medigap coverage > 0]**

In response to a previous question, you indicated that you might have Medigap Supplement Insurance coverage in retirement. As you may know, pricing for Medigap Supplemental Insurance premiums vary considerably by state and by terms of coverage, with monthly premiums ranging from less than $50 to over $200, with some forms of coverage reaching monthly premiums of $500 or more. If you do maintain Medigap Supplement Insurance coverage in retirement, how much do you expect your monthly premiums to be for this coverage?

**Section 5: Out-of-Pocket Cost Expectations**

**Introduction**

For the next questions, we would like you to estimate your total monthly out-of-pocket costs at various times in retirement. Your estimates should include all premiums for any government programs or health care insurance plans. You should also include other out-of-pocket costs for health care expenses that you pay directly. As a rule of thumb, insurance premiums typically constitute between forty and sixty percent of total out-of-pocket costs. As you may know, the cost of health care has risen faster than overall inflation over the past few decades, and government experts predict that retiree health care costs will rise more than one percentage point faster than overall inflation in coming years. If that prediction is accurate, the real costs of retiree health care would increase by more than ten percent every decade. Recognizing that these expenses may vary from month to month, please estimate your average monthly expenses for health care at various times during your retirement years.