

NBER WORKING PAPER SERIES

HOW LONGEVITY AND HEALTH INFORMATION SHAPES RETIREMENT ADVICE

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Working Paper 33872
<http://www.nber.org/papers/w33872>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
May 2025

The authors gratefully acknowledge research support for this work from the TIAA Institute, the HEC Montréal/Retirement and Savings Institute, and the Pension Research Council/Boettner Center at The Wharton School of the University of Pennsylvania. They also thank Yong Yu for excellent programming assistance. The authors benefited from comments by Santosh Anagol, David Boisclair, Benny Goodman, Pierre-Carl Michaud, Bernard Morency, Maya Haran Rosen, and Lorraine Weston, as well as participants at the 32nd Colloquium on Pension and Retirement Research, and the 2025 TIAA Fellows meeting. All findings and conclusions expressed are those of the authors and not the official views of any institutions with which the authors are affiliated. This research is part of the NBER Aging program and the Household Finance workshop.

At least one co-author has disclosed additional relationships of potential relevance for this research. Further information is available online at <http://www.nber.org/papers/w33872>

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NBER Working Paper No. 33872
May 2025
JEL No. D91, G52, J32

ABSTRACT

We investigate how advisors' own health and survival assessments, and information about their advisees' health and survival probabilities, shape their recommendations regarding retirement spending and investment. Using experiments involving amateur and professional advisors, we show that advisors' self-assessments have only mild effects on their recommendations, but they do respond differently when provided longevity and health information about their advisees. Moreover, amateur advisors mainly react to simple cues, while professional advisors are more sensitive to client-specific information. While many rely on informal advice from friends or family, amateurs often cannot accurately analyze and utilize key information needed to provide suitable advice.

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How Longevity and Health Information Shapes Retirement Advice

When making consequential financial choices about saving, investing, Social Security claiming, and spending in retirement, people generally tend to take their own health and life expectancy into account, yet these assessments are often biased.¹ Professional financial advisors can help people mitigate these biases, yet these advisors may also be misinformed or act in their own interests rather than their clients'.² To deepen our understanding of the factors influencing the quality of financial advice, we report on two online experiments we conducted: one using what we call “amateurs” drawn from the general population, and the other using a sample of professional advisors. Specifically, we investigate whether professional and amateur advisors rely more heavily on their own health and anticipated longevity, versus what they know about their advisees, when providing recommendations regarding protection against longevity risk.

Our interest in advice about annuities, or insurance products that help retirees avoid running out of money in later life, arises from a contrast long noted in the economics literature, between the strong theoretical appeal of such lifetime income products, and the relatively low demand for them in practice. For instance, a recent report using data from the U.S. Health and Retirement Study (HRS) found that only about 10% of older Americans received income from privately-purchased lifetime annuities (Arapakis & Wettstein, 2023), with similar findings reported for Canada by Boyer et al. (2020). Termed the “annuitization puzzle” in prior work (e.g., Yaari, 1965; Mitchell et al., 1999; Benartzi et al., 2011; Hurwitz and Sade, 2024), we seek to determine whether this phenomenon could be attributed to biased financial advice. Specifically,

¹ See, for instance, Wu et al. (2013); Bloom et al. (2007); Hurd et al. (2004); Hagen et al. (2024); Elder (2013); and Heimer et al. (2019).

² For example, see Gomes et al. (2021), Budescu & Rantilla (2000), Valley et al. (1992), Jonas et al. (2005), and d’Astous et al. (2024).

we contribute to a growing literature on financial advice by asking how longevity and health information shapes advisors' recommendations on spending and investment for older individuals, about which little is currently known.

Our previous research explored alternative ways to inform people about the risk of outliving one's own assets in old age (Hurwitz et al., 2021, 2022). This work documented that giving people information on longevity risk did boost their demand for lifetime income annuities. In the present setting, by contrast, we ask respondents to furnish financial advice to a hypothetical, or "vignette," individual with a variety of health and longevity attributes.³ We also compare how amateur advisors' recommendations differ from those of professional advisors, to determine how closely these consultants adhere to the information supplied. We show that both amateur and professional advisors are less influenced by their own survival probabilities and health assessments, and both react to the additional private information about their advisees. Nevertheless, amateurs respond to simpler information, such as a severe cancer diagnosis, whereas professional advisors adjust their recommendations based on more granular client-specific information.

In what follows, we first briefly review relevant literature. Next, we identify our hypotheses, experimental design, and empirical methodology. After describing the data, we report results from our experiments using both the amateur and the professional financial advisor samples. A final section summarizes and outlines potential policy implications.

³ As defined in the medical literature, "[v]ignettes are short stories about a hypothetical person, presented to participants during qualitative research (e.g., within an interview or group discussion) or quantitative research, to glean information about their own set of beliefs" (Gourlay et al., 2014, p. 1).

Related studies

The possibility of outliving one's savings is a major concern facing older individuals as they make retirement investment and spending choices. While people are at least vaguely aware of their life expectancy when they make retirement saving and payout decisions, they often make mistakes. For instance, Hamermesh (1985) found that people's self-reported survival probabilities were coherent, proved useful for prediction, and conformed to actuarial tables. Nevertheless, he also documented that, when predicting their own potential longevity, people overweighted their parents' survival patterns but underweighted their personal health habits. Moreover, people are often biased when predicting their own lifetimes. Elder (2013) and Heimer et al. (2019) showed that younger people overstate their mortality rates while older people understate them; accordingly, survival tends to be underestimated by the young and overestimated by the old. Whether these biases also apply to those charged with advising such individuals is not yet known.

Moreover, people's longevity expectations do inform many of their financial behaviors. For instance, Wu et al. (2013) showed that retirement ages were related to peoples' own survival expectations, and Bloom et al. (2007) reported that individuals saved more when they believed they would live longer than average. Hurd et al. (2004) observed that those with low subjective survival probabilities retired sooner and claimed Social Security benefits earlier, compared to those with higher subjective probabilities.⁴ More recently, Hurwitz et al. (2022) established that giving respondents longevity risk information in an experimental context enhanced their understanding of that risk and appreciation for annuities. The present paper contributes to this literature by

⁴ O'Donnell et al. (2008) reported similar results using the English Longitudinal Study of Aging (ELSA). Salm (2010) showed that consumption and saving choices vary with subjective mortality rates, and Teppa and Lafourcade (2013) found a positive relation between self-life expectancy and demand for annuities in Dutch data. In Sweden, Hagen et al. (2024) demonstrated that changes in subjective survival probabilities due to a malignant cancer diagnosis did influence annuitization choices though the effect was relatively small.

studying how health and survival information influences recommendations provided by both professional and amateur advisors.

Several factors have contributed to the growing demand for financial advice over time, particularly as the shift away from defined benefit retirement plans toward defined contribution plans has required households to make crucial decisions about saving, investing and spending their retirement nest eggs (Mitchell & Smetters, 2013). Nevertheless, only about a quarter of older Americans report that they seek financial advice, and many who do, turn to relatives or friends rather than professional advisors (Shah 2024). This is because many people distrust the financial sector (Burke & Hung 2019), perhaps because professional advisors can be susceptible to behavioral biases. For instance, Linnainmaa et al. (2021) and Mullainathan et al. (2012) showed that advisors often convinced their clients to under-diversify, trade often, chase returns, and hold expensive and actively managed funds, just as they did themselves, hence encouraging suboptimal outcomes.⁵ What is not yet known is whether amateur and professional advisors unduly weight their own versus their advisees' longevity and health risks, when they recommend annuitization and investment decisions. This is the topic of the analysis to follow.

Experimental design

To address the question of how advisors incorporate their own versus their advisees' health and longevity attributes when making financial recommendations central to retirement security, we test the following hypotheses in the experimental setting to be described below:

Hypothesis 1: Amateur and professional advisors' *own health and survival probabilities* will influence the investment and annuity advice they provide to clients, but the impact will be

⁵ For an excellent review, see Reuter and Schoar (2024).

smaller for professional advisors who are expected to weight their personal information less heavily.

Hypothesis 2: Informing amateur and professional advisors about their *advisees' longevity and health risk* will prompt both to modify their advice regarding annuities, by recommending that advisees facing health shocks and higher mortality risk not annuitize.

Hypothesis 3: Recommendations by amateur advisors will respond differently to receiving *poor health and longevity information about their advisees*, compared to professional advisors.

To test these hypotheses empirically, we designed and administered two online experimental surveys. The first targeted 2,400 U.S. residents age 35+ via the Prolific crowdsourced survey platform.⁶ The second encompassed 1,151 U.S. professional financial advisors surveyed by Greenwald Research in April 2024.⁷ For both groups, we were interested in (i) how advisors' own subjective longevity and health influenced the financial advice they offered, and (ii) how these recommendations changed when advisors were provided additional information about risks their advisees faced. While our main focus in this study is on the annuitization decision, we also ask the advisors to give investment advice. This allows us to verify that the observed effect of the information is specifically related to the decision at hand, rather than simply due to having received additional information *per se*. To this end, all survey participants were first asked to describe their own backgrounds (e.g., age, sex, education, health, and parental longevity), subjective survival expectations, risk attitudes (Holt & Laury, 2002), and their financial literacy (as measured in Lusardi & Mitchell, 2014). Next, respondents were asked to provide recommendations on

⁶ Prolific (www.prolific.com) is an online survey platform managed by Oxford University. It reports several demographic variables about participants, allowing researchers to screen for respondents with particular characteristics (e.g., age, sex, country of residence). It has been judged to be transparent, extremely useable and highly valuable to researchers due to the sample diversity and the rate of honest answers compared with Amazon Mechanical Turk (MTurk), another commonly used platform (Peer et al., 2017; Palan and Schitter, 2018; Hurwitz et al., 2021).

⁷ Greenwald Research is an independent custom research firm and consulting partner to the health and wealth industries; its Insiders Panel (Greenwald Research, n.d.) describes the sample.

annuities and investments for hypothetical individuals nearing retirement. Specifically, they were asked to advise a 60-year-old single man with no children who needed to make decisions regarding his retirement savings. For the amateur respondent sample, each participant was asked to advise a hypothetical “vignette individual” about either (i) how to allocate his retirement savings, or (ii) whether he should invest in a government bond fund or a mutual fund. For the professional advisor sample, respondents provided recommendations on both annuitization and investment, with the annuitization scenario presented first.

The baseline annuitization vignette was worded as follows:

Mr. Smith is a single, 60-year-old risk-averse man with no children. He will retire and claim his Social Security benefits at 65. When he retires, he will have \$100,000 saved for his retirement, and he will receive \$1,400 in monthly Social Security benefits. Imagine that Mr. Smith asks you about how to manage his \$100,000 retirement savings. If you had to choose between the following two options, which one would you recommend?

1. Keep the entire \$100,000 in his account and use it as he needs it
2. Receive a regular monthly sum of \$500 (equal to \$6,000 yearly) for the rest of his life

The baseline investments vignette was worded as follows:

Suppose Mr. Jones is a 60-year-old risk-averse man who has saved \$100,000 for the future and expects to receive \$1,400 in monthly Social Security benefits, sufficient to cover his planned expenses when he claims at age 65. He has no heirs. He can invest his savings in one of two different ways. One way is to invest in government bonds that will be worth \$100,000, for sure, a year from now. The other way is to invest in a mutual fund that could increase or decrease in value. On average, the mutual fund will be worth \$110,000 in a year, but there is a 50/50 chance of it being worth \$88,000, and a 50/50 chance of it being worth \$132,000. If you had to choose between the following two options, how would you recommend that Mr. Jones invest his money?

1. Government bonds
2. Mutual fund

Following their answers, respondents were then provided additional information about their vignette individual's health status. Providing this information permitted us to assess whether and how the respondents altered their investment and annuitization recommendations in response to the new information. In addition to a Control group not provided with additional evidence, the

five different treatment groups (T1–T5), assigned randomly, were given the following information:⁸

- T1: He is in poor health, has no heirs and is aware of having a 21% chance of surviving until the age of 90 or beyond.
- T2: He is in average health, has no heirs, and is aware of having a 34% chance of surviving until the age of 90 or beyond.
- T3: He has recently been diagnosed with stomach cancer, has no heirs, and is aware of having a 72% chance of surviving for five more years.⁹
- T4: His father passed away from cancer at age 60, and he has no heirs.
- T5: He was recently diagnosed with early-stage prostate cancer, and he is aware of having a 21% chance of surviving until the age of 90 or beyond.

Overall, the amateur advisors were allocated to one of 12 groups (Control + T1-T5; annuity vs investment) depicted in Table 1(a), while the professional advisors were allocated to one of six groups (Control + T1-T5; investment + annuity) depicted in Table 1(b).

[Table 1 here]

Methodology

To test our three key hypothesis regarding how respondents' own health and survival expectations as well as their advisee's longevity and health information, shape recommendations to advisees, we first compute the difference between each respondent's *subjective* versus *objective* survival probability (*SLE-LE*). Specifically, following the University of Michigan's Health and Retirement Study (HRS), respondents were asked their *subjective* chance of living X or $X-5$ more years (*SLE*): *What is the percent chance [0–100] that you think you will live at least {X or X-5} more years?* where the target age varied with the respondent's sex and age (see Appendix T1). The

⁸ Survival probabilities in T1 and T2 were taken from the Actuaries Longevity Illustrator, developed by the American Academy of Actuaries and the Society of Actuaries. <http://www.longevityillustrator.org/>, (accessed January 5, 2023).

⁹ Survival probabilities in T3 are taken from “Key Statistics About Stomach Cancer,” American Cancer Society, retrieved May 28, 2023. <https://www.cancer.org/cancer/types/stomach-cancer/about/key-statistics.html> (accessed May 28, 2023)

respondent's *objective* chance of living the additional number of years (*LE*) was taken from population life tables (specific by age, sex and cohort). A non-negative value of the difference, *SLE-LE*, would indicate that the respondent *overestimated* his or her own objective survival probability, while an *underestimator* was someone whose *SLE-LE* was negative.

Our empirical estimation equation is modeled as a Logit regression, where for decision *j*, respondent *i* indicated whether they recommended (Y_{ij}) that the advisee (1) annuitize or (2) buy government bonds, as follows:

$$(1) Y_{ij} = \alpha + \beta_1(SLE - LE)_i + \beta_2 GoodHealth_i + \beta_3(T1_i) + \beta_4(T2_i) + \beta_5(T3_i) + \beta_6(T4_i) + \beta_7(T5_i) + \gamma'X_i + \epsilon.$$

Here, a positive β_1 coefficient for the *SLE-LE* term would indicate that people who overestimated their life expectancy would be more likely to recommend annuitization (or bonds); if β_2 was positive it would indicate that those self-reporting being in good health would be more likely to recommend annuitization (or bonds). The coefficients on the treatment effects (*T1-T5*) indicate the impact of the specific informational treatment provided to the respondent about the advisee (vis a vis the Control group which received no additional information). X_i is a vector of other control variables including the respondent's *Age* (years); *Male* = 1 if male (else 0); *College+* = 1 if the respondent completed college (else 0); *FinLit* that refers to the total number of financial literacy questions the respondent answered correctly; and *annuity knowledge* based on a positive response to the following question: “Do you think that buying a life annuity usually provides a safer income stream than investing in a mutual fund?” Present preferences were calculated using responses to four questions about winning versus losing various sums of money immediately versus a year later (Khwaja et al., 2007). Individuals who reported they would rather win less money now and lose more money later were considered to have higher present preferences and

thus scored higher on a 0–4 scale.¹⁰ Finally, we include controls for being *consistent* with respect to subjective survival probabilities,¹¹ and for the respondent’s subjective risk preference. Because we are particularly interested in the interplay between the advisor’s own survival optimism and the advisee’s information, we also estimate models separately for underestimators and overestimators, as defined above.

Results

Table 2 reports descriptive statistics for both the amateur and professional advisor samples. The amateur sample comprised 2,400 individuals¹² whose mean age was 48 (range 35-88). Overall, 43% of respondents were male, and 23% had at least a college degree. Additionally, 85% described their health as good or excellent; see Table 2. The professional sample included 1,151 professional advisors whose average age was 54.5 (range 35-91). The second sample was predominantly male (87%); 47% of the participants had at least a college degree, and 94% rated their health as good or excellent. Therefore, the professional advisors were more likely to be men, better educated, about 6 years older, and they scored higher on measures of financial literacy and annuity knowledge, compared to the respondents drawn from the general public. Specifically, the average financial literacy score among professionals was 2.93, which was significantly higher than that of the amateurs, who scored 2.62 on average. The relatively high financial literacy score of the Prolific sample compared to other national surveys could result from familiarity with these questions in survey settings. The gap was more pronounced in annuity knowledge, where 76% of professionals

¹¹ The subgroup identified as *consistent* participants consisted of those who accurately reported a higher probability of living to age $\{X-5\}$ compared with their probability of living to age $\{X\}$, or reported equal chances if they indicated a probability of 0 or 100.

¹² Eight individuals (0.33% of the sample) did not provide responses to the vignette questions and were therefore excluded from the analysis.

answered correctly, compared to only 54% of amateurs. It is also of interest that both the amateur and professional advisors overestimated their survival probabilities relative to life tables. Nevertheless, the mean differences of 25.29% and 24.43% between subjective and life table probabilities of living to old age, respectively, were not statistically significant.

[Table 2 here]

Effect of advisors' own survival and health information on their recommendations. To examine how advisors' own subjective survival probabilities and health assessments influences their recommendations to others, we conduct multivariate Logit analyses of the chance they recommend annuitizing (as opposed to opting for a lump sum at retirement), and recommending bonds (versus mutual funds). Results appear in Tables 3 and 4, respectively; in both tables, columns 1-3 refer to the amateur sample and columns 4-6 the professional advisors. Columns 1 and 4 pertain to the full sample in each case; columns 2 and 5 include only those respondents who underestimated their life expectancy compared to life tables; and columns 3 and 6 include only those who overestimated their life expectancy compared to life tables.

[Tables 3 and 4 here]

It will be recalled that the variable *SLE-LE* indicates the difference between the respondent's subjective survival probability and life table estimates for reaching old age. Table 3 shows that, for the amateur advisors, their own subjective longevity (*SLE-LE*) does have a significant positive impact on the likelihood of recommending annuitization to others, though the economic effect is small (that is, a one-unit increase in *SLE_LE* increases the likelihood of recommending annuitization by approximately 0.2% (0.001/0.38) relative to the mean choice probability of 38%). This is not the case for professional advisors, as their own subjective survival expectations do not significantly affect recommendations to others. Additionally, models

estimated separately for underestimators and overestimators show that responses differ according to other controls; in particular, respondent age shapes annuitization advice only for overestimators. Finally, while financial literacy has no effect on annuitization recommendations, annuity knowledge is associated with a higher probability of recommending annuities. Specifically, amateurs who answered the question correctly were 20% more likely to recommend annuitization (0.077/0.38), while professionals exhibited a similar effect, with a 24% higher likelihood (0.096/0.39).¹³ In sum, advisors' self-assessed health status has very little discernable impact on their annuitization recommendations.

The findings in Table 4 also confirm that advisors' own survival probabilities and subjective health status do not significantly affect the likelihood of recommending bonds over mutual funds, for either amateurs or professionals. Heterogeneity analysis shows that, while older amateur advisors are 0.8% (-0.005/0.65) less likely to recommend bonds to their hypothetical advisees, professional advisors' age does not influence their investment recommendations. Financial literacy is significantly and negatively associated with amateur advisors' recommending bonds (by 7.7% = -0.05/0.65), and professional advisors are much less likely to do so (by 30% = -0.149/0.49). Annuity knowledge increases the chances of recommending bonds for both types of advisors (by 9.8% for the amateurs and 19% for the professionals). Having strong present preferences boosted bond recommendations by 3.5% among amateurs, but it does not affect professionals' recommendations. Lastly, in both samples, respondents who are more risk-tolerant are less likely to recommend bonds (by 3% among amateurs and 5.7% among professionals).

¹³ See Appendix Table A4 where we split the sample based on respondents' annuity knowledge; here we find an indication that the magnitude of the effects is stronger for respondents with annuity knowledge in both samples. Furthermore, while some professional advisors do not fully understand annuitization, they do understand longevity risk, as indicated by their response to T2 (average longevity).

Annuitization recommendations when advisee survival and health information is provided.

Next, we examine how giving both types of advisors health and survival information about their advisees influences the financial advice they provide.

In the amateur sample, holding other variables at their means, providing information about an advisee's chance of reaching age 90 (T2) increases the likelihood that the advisor recommends annuitization versus the control group by 56% (0.212/0.38), with a slightly stronger effect among overestimators. The strong impact of the longevity risk information for a person with average health on annuitization recommendations confirms the conclusion that many in the general public do not understand longevity risk, hence they are surprised when shown the high probability of living to advanced ages (confirming Hurwitz et al., 2022). By contrast, when asked to advise a vignette individual recently diagnosed with severe stomach cancer (T3), amateurs' likelihood of recommending annuitization falls dramatically, by 63% (-0.242/0.38). Other information has no significant impact on annuitization recommendations in the amateur survey, including the survival probability to age 90 of someone in bad health (T1), as well as data on a less severe cancer (T5), and on parental cancer (T4).¹⁴

In sharp contrast, professional advisors respond more strongly and statistically significantly to all information provided on advisees, with the strongest effect among overestimators. In particular, information provided on advisees' health and survival probabilities decreases the likelihood of advisors recommending annuitization. In fact, holding other variables at their means, professional advisors receiving information about the chances of an advisee in poor health living to age 90 (T1) significantly reduce the chance of recommending annuities compared to the Control group, by 33% (-0.13/0.39). Telling them longevity information about the chances

¹⁴ Amateurs who overestimated their own survival probabilities also responded negatively to the information on the advisee's poor health (T1).

of an advisee in average health reaching age 90 reduces annuitization recommendations by 25% (-0.099/0.39).¹⁵ Informing them about a father who died of cancer reduces the likelihood of professional advisors recommending annuitization by 31% (-0.123/0.39). Information about a less severe cancer type also significantly decreased annuitization recommendations, by 31% (-0.123/0.39). Even more powerful is the stomach cancer information treatment, which significantly decreases the likelihood of annuitization recommendations by 91% (-0.356/0.39). Also, all recommendations offered by professional advisors prove substantially more responsive to advisee's characteristics, compared to the amateur respondents.¹⁶

In sum, our results confirm that providing people with information about their advisees' health and survival probabilities does alter annuitization recommendations, for both amateur and professional respondents. These results align with our previous work (Hurwitz et al., 2022), where we gave a representative sample of people information on their own life expectancy and the probability of surviving to old age; there, we observed that the longevity risk information increased their demand for annuities.

Investment recommendations when advisee survival and health information was provided.

We now compare the responses noted above with regard to annuitization, with advisor responses to advisee characteristics regarding investment choice. For the amateur sample, giving the respondents information on the advisee's health and survival chances has small and only modestly significant effects on investment recommendations. Specifically, only one treatment (T2) telling respondents about an average individual's chance of reaching age 90 increases their likelihood of

¹⁵ This is unsurprising since professional advisors tend to have clients with above-average income, and income is correlated with longevity (Chetty et al. 2016). In our sample, over 60% of the professional advisors reported that their clients' average income exceeded \$150,000.

¹⁶ A test for the equality of coefficients between the amateurs and professionals confirms that the differential responses to the information treatments T2, T3, and T4 are statistically significant. These results are available upon request.

recommending bonds (by $13\% = 0.084/0.65$); this effect is only slightly larger for underestimators ($20\% = 0.133/0.65$).

In the professional advisor sample, only one treatment (T4) is statistically significant: learning that the advisee's father had died of cancer, significantly boosting the recommendation to buy bonds by $27\% (= 0.133/0.49)$. Information about the vignette individual being in poor health (T1) has a similar effect among overestimators but is only modestly significant (at the 10% level). Overall, the fact that our information treatments have very little impact on investment advice compared to the annuitization advice suggests that our findings on annuitization are driven by the nature of the decision itself and the relationship between mortality and annuitization, rather than provision of information per se.

Discussion

We set out to explore how retirement-related financial advice is shaped by professional and amateur advisors, how their own health and mortality expectations infuse this advice, and how it changes when provided advisee-specific longevity and health risk information. Results are largely inconsistent with *Hypothesis 1*, which proposed that advisors' own survival probabilities and own health conditions would influence advice given by both types of advisors. Although subjective survival probability information does affect recommendations to annuitize among amateurs asked to provide advice, the effect is minor in economic terms. Professional advisors' recommendations were also not influenced much by their own subjective survival probabilities, with only a small effect seen among advisors who underestimated their own survival probabilities. Similarly, advisors' own subjective health assessments do not alter the advice they provide, for either set of respondents.

Regarding *Hypothesis 2*, we confirm that informing both amateur and professional advisors about advisees' old age survival probabilities, due to illness or parental longevity, does prompt them to adjust their recommendations about annuities for their vignette advisees. Specifically, when given information about an advisee's severe cancer diagnosis, amateurs and professionals are, respectively, 63% and 91% less likely to recommend annuitization. This effect is less pronounced when advising about investment recommendations, as expected.

Our results also support *Hypothesis 3*, since amateur advisors do react differently from the professional advisors to new health information about the advisee. Interestingly, the professional advisors prove to be more sensitive to the additional longevity and health information. Thus, giving the professionals information about the likelihood of an advisee in poor health reaching age 90 decreases their annuitization recommendations by 33%; when shown information about the chances of an advisee in average health reaching age 90, annuitization recommendations drop by 25%. Telling advisors that the advisee's father died of cancer curtails annuitization recommendations by 31%, the same as giving them information about a less severe cancer type (-31%). Information on stomach cancer reduces their annuitization recommendations by 91%. In contrast, amateur advisors only adjust advice in a couple of cases—and in opposite directions. They reduce their annuity recommendations by 63% when shown information on the client's severe cancer, but they increase them by 56% in response to average health survival probabilities.

Finally, the new information provided has only a small impact on investment advice for both types of advisors. Amateur advisors are about 13% more likely to recommend investing in bonds (significant at 10%) when given information about an advisee in average health reaching age 90, which is surprising as it implies that amateurs recommend a less risky portfolio risk to a longer-lived individual. Professional advisors also adjust their bond recommendations only

slightly in response to information about the advisee's father dying of cancer, in which case they are 27% more likely to suggest that the advisees invest in bonds. Such small responses are not surprising, as the information treatment were designed to influence the annuitization choices and not the investment advice.

Conclusions and implications

Prior research has explored how advisors influence their advisees' investment portfolios, but to date, relatively little is known about how advisors incorporate information about their clients' longevity and health risk when it comes to recommending annuitization. Our study therefore enhances understanding of the factors shaping advisor-provided decisions regarding lifetime income, and it also facilitates a direct comparison of recommendations from amateur and professional advisors.

Our findings confirm that advisors, especially the professionals, do not overweight their own subjective longevity and health risk perceptions when offering annuitization and investment advice to others. This contrasts with prior research showing that some advisors emphasize their own investment preferences versus those of their advisees (Anagol et al., 2017). Our findings further confirm that giving advisors specific information about their advisees' longevity and health does influence what they advise. Moreover, professional advisors prove to be more sensitive to the relevance of information received about their advisees, compared with amateurs. While amateurs adjust their recommendations when given relatively simple longevity and health risk information, professionals react to more of the longevity and health information provided, especially if they overestimate their own survival probabilities. This suggests that, even when professionals have

biases, they can and do adjust their recommendations to advisees' circumstances. Additionally, amateurs do not understand longevity risk, by and large, whereas professionals are better informed.

In sum, many amateur advisors lack the capability to accurately analyze and utilize key information needed to provide appropriate advice pertinent to retirement security. Since so many Americans turn to friends and family for financial advice, rather than seeking professional advice, this evidence underscores the need to enhance longevity literacy in the general population (Yakoboski et al. 2023). Insofar as professional advisors go, we also identified that they need greater information about the value of annuity products in enhancing retirement security, since our research showed that 25% did not understand that annuities provide more stable lifetime income compared to investments.

References

- Anagol, S., Cole, S., & Sarkar, S. (2017). Understanding the advice of commissions-motivated agents: Evidence from the Indian life insurance market. *Review of Economics and Statistics*, 99(1): 1–15.
- Arapakis, K., & Wettstein, G. (2023). How much do people value annuities and their added features? Chestnut Hill, MA: Center for Retirement Research Working Paper 2023-18.
- Benartzi, S., Previtero, A., & Thaler, R. H. (2011). Annuitization puzzles. *Journal of Economic Perspectives*, 25(4): 143-164.
- Bloom, D. E., Canning, D., Moore, M., & Song, Y. (2007). The effect of subjective survival probabilities on retirement and wealth in the United States. In R. Clark, N. Ogawa, & A. Mason (Eds.), *Population Aging, Intergenerational Transfers and the Macroeconomy* Cheltenham, UK: Edward Elgar Publishing, pp. 67–100.
- Boyer, M. M., Box-Couillard, S., & Michaud, P. C. (2020). Demand for annuities: Price sensitivity, risk perceptions, and knowledge. *Journal of Economic Behavior & Organization*, 180: 883-902.
- Budescu, D. V., & Rantilla A. K. (2000). Confidence in aggregation of expert opinions. *Acta Psychologica*, 104(3): 371–398.
- Burke, J. & Hung, A. (2021). Trust and financial advice. *Journal of Pension Economics and Finance*, 20(1): 9-26.
- d’Astous, P., Gemmo, I., & Michaud, P. C. (2024). The quality of financial advice: What influences recommendations to clients? *Journal of Banking & Finance*, 169, 107291.
- Chetty R, Stepner M, Abraham S, Lin S, Scuderi B, Turner N, Bergeron A, Cutler D. (2016). The Association Between Income and Life Expectancy in the United States, 2001-2014. *JAMA*. 315(16):1750-66.
- Elder, T. E. (2013). The predictive validity of subjective mortality expectations: Evidence from the Health and Retirement Study. *Demography*, 50(2): 569–589.
- Gomes, F., Haliassos, M., & Ramadorai, T. (2021). Household finance. *Journal of Economic Literature*, 59(3): 919–1000.
- Gourlay, A., Mshana, G., Birdthistle, I., Bulugu, G., Zaba, B., & Urassa, M. (2014). Using vignettes in qualitative research to explore barriers and facilitating factors to the uptake of prevention of mother-to-child transmission services in rural Tanzania: A critical analysis. *BMC Medical Research Methodology*, 14: 1–11.
- Greenwald Research. (n.d.). The insiders panel. <https://greenwaldresearch.com/panel-theinsiders/>
- Hagen, J., Hodor, M., & Hurwitz, A. (2024). Health shocks, risk preferences, and annuity choices. Institute for Evaluation of Labour Market and Education Policy Working Paper 4.
- Hamermesh, D. S. (1985). Expectations, life expectancy, and economic behavior. *Quarterly Journal of Economics*, 100(2): 389–408.
- Heimer, R. Z., Myrseth, K. O. R., & Schoenle, R. S. (2019). YOLO: Mortality beliefs and household finance puzzles. *Journal of Finance*, 74(6): 2957–2996.
- Holt, C. A., & Laury, S. K. (2002). Risk aversion and incentive effects. *American Economic Review*, 92(5): 1644–1655.

- Hurd, M. D., Smith, J. P., & Zissimopoulos, J. M. (2004). The effects of subjective survival on retirement and Social Security claiming. *Journal of Applied Econometrics*. 19(6): 761–775.
- Hurwitz, A., Mitchell, O. S., & Sade, O. (2021). Longevity perceptions and saving decisions during the COVID-19 outbreak: An experimental investigation. *AEA Papers and Proceedings*. 111: 297–301.
- Hurwitz, A., Mitchell, O. S., & Sade, O. (2022). Testing methods to enhance longevity awareness. *Journal of Economic Behavior and Organization*. 204: 466–475.
- Hurwitz, A., & Sade, O. (2024). Is one plus one always two? Insuring longevity risk while having multiple savings accounts. *Management Science*. 10.1287/mnsc.2022.02489
- Jonas, E., Schulz-Hardt, S., & Frey, D. (2005). Giving advice or making decisions in someone else's place: The influence of impression, defense, and accuracy motivation on the search for new information. *Personality and Social Psychology Bulletin*. 31(7): 977–990.
- Khwaja, A., Silverman, D., & Sloan, F. (2007). Time preference, time discounting, and smoking decisions. *Journal of Health Economics*. 26(5): 927–949.
- Linnainmaa, J. T., Melzer, B. T., & Previtero, A. (2021). The misguided beliefs of financial advisors. *Journal of Finance*. 76(2): 587–621.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*. 52(1): 5–44.
- Mitchell, O. S., Poterba, J. M., Warshawsky, M. J., & Brown, J. R. (1999). New evidence on the money's worth of individual annuities. *American Economic Review*. 89(5): 1299–1318.
- Mitchell, O. S., & Smetters, K. (2013). The market for retirement financial advice: An introduction. In O.S. Mitchell & K. Smetters (Eds.). *The Market for Retirement Financial Advice*. Oxford, UK: Oxford University Press. pp. 1–10.
- Mullainathan, S., Noeth, M., & Schoar, A. (2012). The market for financial advice: An audit study. National Bureau of Economic Research Working paper 17929.
- O'Donnell, O., Teppa, F., & Van Doorslaer, E. (2008). *Can subjective survival expectations explain retirement behaviour?* De Nederlandsche Bank Working paper 188.
- Palan, S. & Schitter, C. (2018). Prolific: A subject pool for online experiments. *Journal of Behavioral and Experimental Finance*. 17: 22–27.
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*. 70: 153–163.
- Reuter, J. & Schoar, A. (2024). Demand-side and supply-side constraints in the market for financial advice. *Annual Review of Financial Economics*. 16: 391–411. 10.1146/annurev-financial-110921-012809
- Salm, M. (2010). Subjective mortality expectations and consumption and caring behaviours among the elderly. *Canadian Journal of Economics/Revue Canadienne d'économie*, 43(3): 1040–1057.
- Shah, K. (2024). “26% of Americans use financial advisors with 60% prioritizing trust as the top factor.” YouGov.com. <https://business.yougov.com/content/50180-27-americans-use-financial-advisors-60-prioritizing-trust-as-the-top-factor>.
- Teppa, F., & Lafourcade, P. (2013). *Can longevity risk alleviate the annuitization puzzle? Empirical evidence from survey data*. De Nederlandsche Bank Working Paper 302.

- Valley, K.L., White, S.B., Neale, M.A., & Bazerman, M.H. (1992). Agents as information brokers: The effects of information disclosure on negotiated outcomes. *Organizational Behavior and Human Decision Processes*. 51(2): 220–236.
- Wu, S., Stevens, R., & Thorp, S. (2013). *Die young or live long: Modeling subjective survival probabilities*. SSRN Working Paper 201319.
- Yaari, M. E. (1965). Uncertain lifetime, life insurance, and the theory of the consumer. *The Review of Economic Studies*. 32(2): 137-150.
- Yakoboski, P., Lusardi, A., & Hasler, A. (2023). Financial literacy, longevity literacy, and retirement readiness: 2022 TIAA Institute-GFLEC Personal Finance Index. TIAA Institute and Global Financial Literacy Center. https://www.tiaa.org/content/dam/tiaa/institute/pdf/insights-report/2023-01/longevity_literacy_financial_literacy_and_retirement_readiness.pdf

Table 1. Experimental design: Number of participants by information treatment group and vignette presentation**(a) Amateur advisors**

<i>Vignette</i> <i>Presentation</i>	Control	Poor health (T1)	Average health (T2)	Diagnosed with cancer (T3)	Father passed from cancer (T4)	Less severe cancer (T5)	Total
Annuitytization	198	200	197	199	199	202	1,195
Investment	200	200	199	200	201	197	1,197
Total	398	400	396	399	400	399	2,392

(b) Professional advisors

<i>Vignette</i> <i>Presentation</i>	Control	Poor health (T1)	Average health (T2)	Diagnosed with cancer (T3)	Father passed from cancer (T4)	Less severe cancer (T5)	Total
Annuitytization & Investment	196	197	197	197	197	167	1,151

Note: Amateur respondents (Panel a) were randomly allocated to an investment *or* an annuitytization vignette. In each case, respondents received either an additional informational treatment about health or longevity (T1–T5), or no additional information (control); see text. Respondents in the professional advisor study (Panel b) were all allocated to an investment *and* an annuitytization vignette, and randomly assigned to received either an additional informational treatment about health or longevity (T1–T5), or no additional information (control); see text.

Table 2. Descriptive statistics and variable definitions: Amateur and professional advisors

Variable	Amateur			Professional			Definition of variables
	N	Mean	Std.Dev.	N	Mean	Std.Dev.	
Chose annuity	1,195	0.37	0.48	1,151	0.39	0.49	=1 if respondents were asked to provide recommendations on annuities for hypothetical individuals nearing retirement, =0 else
Chose bond	1,197	0.66	0.47	1,151	0.49	0.50	=1 if respondents were asked to provide recommendations on investments for hypothetical individuals nearing retirement, =0 else
SLE-LE	2,232	25.29	31.38	1,093	24.43	29.91	The difference between each respondent's subjective versus objective survival probability
Good health	2,392	0.85	0.36	1,151	0.94	0.24	=1 if respondents answered health status, excellent, very good , or good; =0 else
Poor health (T1)	2,392	0.17	0.37	1,151	0.17	0.38	=1 if respondents were assigned in the first treatment group, =0 else
Average health (T2)	2,392	0.17	0.37	1,151	0.17	0.38	=1 if respondents were assigned in the second treatment group, =0 else
Diagnosed with cancer (T3)	2,392	0.17	0.37	1,151	0.17	0.38	=1 if respondents were assigned in the third treatment group, =0 else
Father passed from cancer (T4)	2,392	0.17	0.37	1,151	0.17	0.38	=1 if respondents were assigned in the fourth treatment group, =0 else
Less severe cancer (T5)	2,392	0.17	0.37	1,151	0.15	0.35	=1 if respondents were assigned in the fifth treatment group, =0 else
Age (yr)	2,392	48.37	10.46	1,151	54.53	10.48	Age
Male	2,392	0.43	0.49	1,151	0.87	0.34	=1 if respondents gender is male, =0 else
College+	2,392	0.23	0.42	1,151	0.47	0.50	=1 if the highest level of education of respondents is graduate school, =0 else
FinLit score	2,392	2.62	0.68	1,151	2.93	0.29	Sum of correct answers of FinLit BIG3 questions
Annuity knowledge	2,392	0.54	0.50	1,151	0.76	0.43	=1 if respondents answered true that buying a life annuity usually provides a safer income stream than investing in a mutual fund, =0 else
Present pref	2,392	2.01	1.40	1,151	1.24	1.41	Present preferences were calculated using responses to four questions about winning versus losing various sums of money immediately versus a year later. Higher score is considered higher present preferences.
Subjective risk preference	2,388	4.32	2.59	1,151	8.26	1.69	Scale of how willing or unwilling to take risks in investment setting, higher score is more willing to take risks.
Consistent	2,392	0.60	0.49	1,087	0.79	0.41	=1 if respondents answered two life expectancy questions consistent, =0 else
Underestimator	2,392	0.27	0.45	1,151	0.25	0.43	=1 if SLE -LE<0, =0 else and not missing

Note: SLE-LE (%) denotes the discrepancy between the respondent's subjective and objective survival chance of living to age X. Underestimator is a dummy variable (=1 if an individual's subjective survival probability was lower than indicated by life tables). Consistent is a variable indicating consistency with respect to expected longevity questions; Chose bond is coded as 1 if the respondent recommended a bond over a mutual fund for the vignette individual, while Chose annuity indicates a recommendation for annuitization. Additional variables include age, gender, college education or higher, self-reported health status (good/very good/excellent), financial literacy score, annuity knowledge, present preference score, subjective risk preferences, and risk aversion.

Table 3: Annuitization advice provided by amateur and professional advisors, marginal Logit effects

	Chose annuity: Amateurs			Chose annuity: Professionals		
	Full sample	Underestimators=1	Underestimators=0	Full sample	Underestimators=1	Underestimators=0
SLE-LE	0.001 ** (0.001)	0.004 (0.004)	0.001 * (0.001)	0.001 (0.001)	0.005 (0.004)	0.001 (0.001)
Good health	0.039 (0.042)	0.008 (0.064)	0.032 (0.058)	-0.021 (0.068)	0.043 (0.092)	-0.087 (0.110)
Poor health (T1)	-0.047 (0.048)	0.084 (0.094)	-0.111 ** (0.055)	-0.130 *** (0.044)	-0.011 (0.103)	-0.161 *** (0.049)
Average health (T2)	0.212 *** (0.054)	0.175 * (0.095)	0.236 *** (0.066)	-0.099 ** (0.045)	-0.124 (0.082)	-0.081 (0.055)
Diagnosed with cancer (T3)	-0.242 *** (0.039)	-0.240 *** (0.068)	-0.243 *** (0.047)	-0.356 *** (0.030)	-0.362 *** (0.057)	-0.349 *** (0.036)
Father passed from cancer (T4)	-0.011 (0.048)	-0.031 (0.088)	-0.004 (0.059)	-0.123 *** (0.043)	-0.118 (0.083)	-0.124 ** (0.051)
Less severe cancer (T5)	-0.048 (0.049)	-0.058 (0.090)	-0.043 (0.059)	-0.123 *** (0.045)	-0.055 (0.097)	-0.142 *** (0.052)
N	1,111	336	775	1,087	289	798
Pseudo R2	0.07	0.08	0.09	0.07	0.11	0.07
Mean of Dep.Var	0.38	0.35	0.39	0.39	0.37	0.40

Note: Table 3 presents average marginal effects from Logit regression of participants' propensity to recommend annuitizing (versus choosing a lump-sum option at retirement). Key control variables are *SLE-LE* and self-reported health (see text), and the information treatment provided (health or survival probability information, see Table 2). In addition, we control on age, sex, education, financial literacy, annuity knowledge, present preference score, subjective risk preferences, and being consistent with respect to expected longevity questions. Results provided for both the Amateur and Professional samples, and reported for the full sample, under-estimators, and overestimators (as indicated). Additional results are reported in Appendix Table A2. Standard errors in parentheses. *** $p < 0.01$. ** $p < 0.05$.

Table 4: Investment advice provided by amateur and professional advisors, marginal Logit effects

	Chose bond: Amateurs			Chose bond: Professionals		
	Full sample	Underestimators=1	Underestimators=0	Full sample	Underestimators=1	Underestimators=0
SLE-LE	0.000 (0.001)	-0.002 (0.005)	0.000 (0.001)	0.000 (0.001)	0.004 (0.004)	0.000 (0.001)
Good health	-0.034 (0.042)	-0.021 (0.066)	-0.047 (0.055)	-0.046 (0.066)	-0.020 (0.094)	-0.088 (0.099)
Poor health (T1)	0.054 (0.047)	0.117 (0.079)	0.026 (0.058)	0.081 (0.052)	-0.006 (0.113)	0.111 (0.059) *
Average health (T2)	0.084 * (0.045)	0.133 * (0.075)	0.068 (0.055)	0.014 (0.053)	0.005 (0.105)	0.012 (0.063)
Diagnosed with cancer (T3)	0.022 (0.048)	0.127 (0.080)	-0.016 (0.059)	0.084 (0.053)	0.035 (0.106)	0.100 (0.062)
Father passed from cancer (T4)	0.038 (0.047)	0.123 (0.079)	0.009 (0.057)	0.133 ** (0.052)	-0.045 (0.107)	0.195 *** (0.058)
Less severe cancer (T5)	0.026 (0.048)	0.062 (0.092)	0.012 (0.056)	-0.006 (0.055)	0.068 (0.110)	-0.037 (0.064)
N	1,119	320	799	1,087	289	798
Pseudo R2	0.03	0.04	0.04	0.03	0.03	0.04
Mean of Dep.Var	0.65	0.65	0.66	0.49	0.50	0.49

Notes: Table 4 presents average marginal effects from Logit regression of participants' propensity to recommend investing in bonds (versus investing in mutual funds). Key control variables are *SLE-LE* and self-reported health, the treatment information provided (health or survival probabilities, see Table 2). In addition, we control on age, sex, education, financial literacy, annuity knowledge, present preference score, subjective risk preferences, and being consistent with respect to expected longevity questions. Results provided for both the amateur and professional samples, and reported for the full sample, under-estimators, and overestimators (as indicated). Additional results are reported in Appendix Table A3. Standard errors in parentheses. *** $p < 0.01$. ** $p < 0.05$.

Appendix Table A1. Live to age X and X-5 by sex and age

FILLS by AGE AND GENDER				
	Male		Female	
Age	X	$X-5$	X	$X-5$
35–39	55	50	60	55
40–44	50	45	55	50
45–49	45	40	50	45
50–54	40	35	45	40
55–59	35	30	40	35
60–64	30	25	35	30
65–69	25	20	30	25
70–74	20	15	25	20
75–79	15	10	20	15
80–84	15	10	15	10
85–90	10	5	10	5

Source: Hurwitz et al. (2022)

Appendix Table A2. Annuity advice provided by amateur and professional advisors, marginal Logit effects: Full set of estimates

	Chose annuity: Amateurs			Chose annuity: Professionals		
	Full sample	Underestimators=1	Underestimators=0	Full sample	Underestimators=1	Underestimators=0
SLE-LE	0.001 **	0.004	0.001 *	0.001	0.005	0.001
	-0.001	-0.004	-0.001	-0.001	-0.004	-0.001
Good health	0.039	0.008	0.032	-0.021	0.043	-0.087
	-0.042	-0.064	-0.058	-0.068	-0.092	-0.11
Poor health (T1)	-0.047	0.084	-0.111 **	-0.13 ***	-0.011	-0.161 ***
	-0.048	-0.094	-0.055	-0.044	-0.103	-0.049
Average health (T2)	0.212 ***	0.175 *	0.236 ***	-0.099 **	-0.124	-0.081
	-0.054	-0.095	-0.066	-0.045	-0.082	-0.055
Diagnosed with cancer (T3)	-0.242 ***	-0.24 ***	-0.243 ***	-0.356 ***	-0.362 ***	-0.349 ***
	-0.039	-0.068	-0.047	-0.03	-0.057	-0.036
Father passed from cancer (T4)	-0.011	-0.031	-0.004	-0.123 ***	-0.118	-0.124 **
	-0.048	-0.088	-0.059	-0.043	-0.083	-0.051
Less severe cancer (T5)	-0.048	-0.058	-0.043	-0.123 ***	-0.055	-0.142 ***
	-0.049	-0.09	-0.059	-0.045	-0.097	-0.052
Age	0.003 **	-0.001	0.005 ***	0.004 **	0.004	0.004 **
	-0.001	-0.003	-0.002	-0.002	-0.003	-0.002
Male	0.001	0.001	0.009	-0.028	-0.146	0.003
	-0.032	-0.06	-0.039	-0.047	-0.107	-0.054
College+	0.063 *	0.1	0.051	0.031	0.081	0.02
	-0.037	-0.076	-0.044	-0.031	-0.063	-0.036
FinLit	0.008	0.039	0.008	-0.023	-0.053	-0.012
	-0.024	-0.055	-0.027	-0.054	-0.105	-0.065
Annuity Knowledge	0.077 **	0.051	0.096 ***	0.114 ***	0.155 **	0.096 **
	-0.03	-0.055	-0.037	-0.034	-0.061	-0.042
Present pref	0.002	-0.02	0.008	0.01	-0.012	0.021
	-0.011	-0.019	-0.014	-0.011	-0.02	-0.013
Subjective risk preference	0.007	-0.005	0.012 *	0	0.015	-0.007
	-0.006	-0.01	-0.007	-0.009	-0.018	-0.011
Consistent	0.041	0.032	0.043	0	-0.009	0.008
	-0.032	-0.068	-0.038	-0.04	-0.094	-0.044
N	1,111	336	775	1,087	289	798
Pseudo R2	0.07	0.08	0.09	0.07	0.11	0.07
Mean of Dep.Var	0.38	0.35	0.39	0.39	0.37	0.4

Note: Table A2 presents average marginal effects from Logit regression of participants' propensity to recommend annuitizing more (versus choosing a lump-sum option at retirement). Key control variables are SLE-LE and self-reported health, and the treatment information provided (health or survival probabilities, see Table 2). In addition, we control on age, sex, education, financial literacy, annuity knowledge, present preference score, subjective risk preferences, and being consistent with respect to expected longevity questions. Results provided for both the amateur and professional samples, and reported for the full sample, under-estimators and overestimators (as indicated). Standard errors in parentheses. *** $p < 0.01$. ** $p < 0.05$

Appendix Table A3. Investment advice provided by amateur and professional advisors, marginal Logit effects: Full set of estimates

	Chose bond: Amateurs			Chose bond: Professionals		
	Full sample	Underestimators=1	Underestimators=0	Full sample	Underestimators=1	Underestimators=0
SLE-LE	0	-0.002	0	0	0.004	0
	-0.001	-0.005	-0.001	-0.001	-0.004	-0.001
Good health	-0.034	-0.021	-0.047	-0.046	-0.02	-0.088
	-0.042	-0.066	-0.055	-0.066	-0.094	-0.099
Poor health (T1)	0.054	0.117	0.026	0.081	-0.006	0.111 *
	-0.047	-0.079	-0.058	-0.052	-0.113	-0.059
Average health (T2)	0.084 *	0.133 *	0.068	0.014	0.005	0.012
	-0.045	-0.075	-0.055	-0.053	-0.105	-0.063
Diagnosed with cancer (T3)	0.022	0.127	-0.016	0.084	0.035	0.1
	-0.048	-0.08	-0.059	-0.053	-0.106	-0.062
Father passed from cancer (T4)	0.038	0.123	0.009	0.133 **	-0.045	0.195 ***
	-0.047	-0.079	-0.057	-0.052	-0.107	-0.058
Less severe cancer (T5)	0.026	0.062	0.012	-0.006	0.068	-0.037
	-0.048	-0.092	-0.056	-0.055	-0.11	-0.064
Age	-0.005 ***	-0.003	-0.006 ***	0.002	0.003	0.002
	-0.001	-0.003	-0.002	-0.002	-0.003	-0.002
Male	-0.027	-0.045	-0.023	0.018	-0.001	0.023
	-0.03	-0.059	-0.036	-0.049	-0.102	-0.056
College+	0.033	0.034	0.026	-0.01	-0.073	0.015
	-0.034	-0.068	-0.04	-0.032	-0.062	-0.037
FinLit score	-0.05 **	-0.065	-0.047 *	-0.149 **	-0.029	-0.202 ***
	-0.025	-0.068	-0.026	-0.064	-0.118	-0.077
Annuity Literacy	0.064 **	0.074	0.062 *	0.094 ***	0.049	0.12 ***
	-0.03	-0.057	-0.035	-0.036	-0.069	-0.043
Present pref	0.023 **	-0.004	0.035 ***	0.015	0.027	0.012
	-0.011	-0.02	-0.013	-0.011	-0.021	-0.013
Subjective risk preference	-0.02 ***	-0.023 **	-0.019 ***	-0.028 ***	-0.036 *	-0.024 *
	-0.006	-0.011	-0.007	-0.01	-0.02	-0.013
Consistent	0.019	-0.066	0.05	0	0.034	-0.003
	-0.031	-0.062	-0.036	-0.039	-0.099	-0.044
N	1,119	320	799	1,087	289	798
Pseudo R2	0.03	0.04	0.04	0.03	0.03	0.04
Mean of Dep.Var	0.65	0.65	0.66	0.49	0.5	0.49

Notes: Table A3 presents average marginal effects from Logit regression of participants' propensity to recommend investing in bonds (versus investing in mutual funds). Key control variables are SLE-LE and self-reported health, and the treatment information provided (health or survival probabilities, see Table 2). In addition, we control on age, sex, education, financial literacy, annuity knowledge, present preference score, subjective risk preferences, and being consistent with respect to expected longevity questions. Results provided for both the amateur and professional samples, and reported for the full sample, under-estimators, and overestimators (as indicated). Standard errors in parentheses. *** $p < 0.01$. ** $p < 0.05$

Appendix Table A4. Annuity advice provided by amateur and professional advisors, marginal Logit effects: Respondents with and without annuity knowledge

	With annuity knowledge		Without annuity knowledge	
	Amateurs	Professionals	Amateurs	Professionals
SLE-LE	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Good health	0.046 (0.060)	-0.043 (0.079)	0.032 (0.058)	0.068 (0.124)
Poor health (T1)	-0.087 (0.065)	-0.157 *** (0.051)	-0.002 (0.073)	-0.046 (0.081)
Average health (T2)	0.069 (0.074)	-0.083 (0.055)	0.336 *** (0.076)	-0.158 ** (0.069)
Diagnosed with cancer (T3)	-0.255 *** (0.056)	-0.377 *** (0.035)	-0.234 *** (0.053)	-0.288 *** (0.052)
Father passed from cancer (T4)	0.005 (0.069)	-0.119 ** (0.052)	-0.019 (0.069)	-0.143 ** (0.071)
Less severe cancer (T5)	-0.084 (0.069)	-0.133 ** (0.054)	-0.007 (0.071)	-0.076 (0.083)
Age	0.004 * (0.002)	0.004 ** (0.002)	0.002 (0.002)	0.004 (0.003)
Male	-0.015 (0.044)	-0.007 (0.056)	0.006 (0.046)	-0.069 (0.086)
College+	0.061 (0.052)	0.009 (0.036)	0.059 (0.055)	0.114 * (0.060)
FinLit	0.002 (0.034)	-0.031 (0.062)	0.007 (0.032)	0.012 (0.129)
Present pref	0.004 (0.016)	0.015 (0.013)	0.000 (0.016)	-0.013 (0.021)
Subjective risk preference	-0.008 (0.009)	-0.002 (0.011)	0.022 *** (0.008)	-0.001 (0.021)
Consistent	0.033 (0.047)	-0.025 (0.048)	0.040 (0.045)	0.061 (0.066)
N	556	834	555	253
Pseudo R2	0.05	0.06	0.12	0.09
Mean of Dep.Var	0.41	0.42	0.34	0.30

Notes: Appendix Table A4 presents average marginal effects from Logit regression of participants' propensity to recommend annuitizing (versus choosing a lump-sum option at retirement) for respondents with and without annuity knowledge. For variable definitions see Table 2. Standard errors in parentheses. *** p < 0.01. ** p < 0.05