

# How longevity and health information shapes financial advice

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## Abstract

This study investigates how advisors' subjective health and survival assessments, as well as information about their advisees' health and survival probabilities, shape the advice they provide regarding saving and retirement. We design and implement two experiments: one involving amateur advisers, and the other involving professional advisers. We find that advisors' subjective assessments are unlikely to shape their recommendations, but they respond differently when given private longevity and health information about their advisees. Moreover, amateur advisers react primarily to simple cues; professional advisers adjust their recommendations based on more detailed client-related information.

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When making consequential financial choices about saving, retirement, Social Security claims, and annuitization, people generally tend to take their own health and life expectancy into account; nevertheless, these assessments are often biased.<sup>1</sup> Professional financial advisors can help people mitigate these biases, yet the advisors themselves may be misinformed or act in their own interests rather than their clients'.<sup>2</sup> To deepen our understanding of the factors influencing the quality of financial advice, we report on two online experiments we conducted: one using a sample of the general public, and the other using a sample of professional advisors. Specifically, we investigate whether professional and amateur advisors rely more on their own health and anticipated longevity, or on what they know about their advisees, when providing retirement investment and spending recommendations. Accordingly, we contribute to the growing literature on financial advice, with a particular focus on how longevity and health information shapes advisor recommendations 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), which showed that simply providing people information on longevity risk boosted their interest in saving and 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 who has particular health issues and longevity characteristics.<sup>3</sup> Next, we assess whether and how the advice changes when we provide respondents with additional information about the advisees' health or parental longevity. We also compare how amateur advisors' recommendations differ from those of professional advisors, to evaluate how closely people adhere to the information provided. We show that both amateur and professional advisors are less affected by their own survival probabilities and health assessments, than information about the advisees, and both react to the advisees' private information. Nevertheless, amateurs respond to simpler information, such as a cancer diagnosis, whereas professional advisors adjust their recommendations based on more detailed, client-specific information.

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

## Prior studies

The possibility of outliving one's assets is a major concern facing older individuals as they make retirement investment

and spending choices, and evidence indicates that, in the general population, people are at least vaguely aware of their life expectancy when they make retirement saving and payout decisions. For instance, Hamermesh (1985) concluded that people's self-reported survival probabilities were coherent, proved useful for prediction, and conformed to actuarial tables. Nevertheless, he also noted that people overweighted their own parents' survival patterns, but underweighted their personal health habits when predicting their own potential longevity. Further research has confirmed that people are often biased when predicting their own lifetimes: Elder (2013) and Heimer et al. (2019) documented that younger people overstate their mortality rates and older people understate them; accordingly, survival tends to be underestimated by the young and overestimated by the old. Whether these biases also apply to professional advisors is not yet known.

It has been shown that longevity expectations do inform many financial behaviors. For instance, Wu et al. (2013) showed that people's retirement patterns were related to their own survival expectations, and Bloom et al. (2007) reported that those believing they would live longer than average saved more. Moreover, Hurd et al. (2004) observed that those with low subjective survival probabilities retired sooner and claimed Social Security benefits earlier than did those with higher subjective probabilities.<sup>4</sup> More recently, Hurwitz et al. (2022) documented that giving respondents longevity risk information in an experimental context enhanced their understanding of longevity risk as well as annuities. We contribute to this literature by studying how health and survival information influences recommendations by professional advisors, as compared with those from nonexperts.

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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 and Rantilla (2000), Valley et al. (1992), and Jonas et al. (2005).

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).

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) used Dutch data to show a positive relation between self-life expectancy and demand for annuities. Hagen et al. (2024) analyzed Swedish data and demonstrated that changes in subjective survival probabilities influence annuitization choices. However, they also highlighted that the effect size was relatively small.

Several factors have contributed to the growing role for financial advice over time, particularly as the shift away from defined benefit retirement plans toward defined contribution plans requires individuals to make crucial decisions about saving, investing, and spending their retirement nest eggs (Mitchell & Smetters, 2013). Nevertheless, only about a third of older Americans report that they seek financial advice, and many who do turn to relatives or friends rather than professional advisors (Kim et al., 2021). This is, in part, because the effectiveness of financial advice depends on its cost, accuracy, and suitability, which can depend on advisors' incentives (e.g., Gomes et al., 2021). Additionally, some professional advisors are susceptible to behavioral biases. For instance, Linnainmaa et al. (2021) and Mullainathan et al. (2012) showed that advisors convinced their clients to underdiversify, trade often, chase returns, and hold expensive and actively managed funds, just as they did themselves, hence encouraging suboptimal outcomes.<sup>5</sup> What isn't yet known is whether amateur and professional advisors take into account their advisees' key longevity and health risks when they make suggestions regarding investment and annuitization decisions.

## Experimental design

Building on this literature, we seek to test the following hypotheses:

**Hypothesis 1:** Amateur as well as professional advisors' own health and survival probabilities will influence the investment and annuity advice they provide to advisees, but the impact will be smaller for the professionals, who are likely more knowledgeable.

**Hypothesis 2:** Informing amateur and professional advisors about their clients' longevity and health risk will prompt them to modify their recommendations regarding investment and annuities for the vignette individuals. Specifically, both will advise people facing health shocks and higher mortality risk to hold less risky portfolios and not to annuitize.

**Hypothesis 3:** Amateur advisors will react more strongly to poor health and greater longevity information about their advisees, compared with professional advisors.

To empirically test these hypotheses, we designed and administered two online experimental surveys. The first targeted 2,400 U.S. residents ages 35 and beyond via the Prolific crowdsourced survey platform.<sup>6</sup> The second included 1,151 U.S. financial advisors in April 2024 surveyed by

Greenwald Research.<sup>7</sup> For both, we sought to understand (i) how advisors' own expected longevity and health influenced the financial advice they offered, and (ii) how these recommendations changed when respondents were given additional information about risks facing their advisees.

To achieve this, all participants were first asked to describe their own backgrounds (e.g., age, sex, education, health, and parental longevity), their own subjective survival expectations,<sup>8</sup> their risk attitudes (Holt & Laury, 2002), their understanding of the Big Three financial literacy questions (Lusardi & Mitchell, 2014), and their annuity knowledge based on the following question: "Do you think that buying a life annuity usually provides a safer income stream than investing in a mutual fund?" Next, respondents were asked to provide recommendations on investments and annuities for hypothetical individuals nearing retirement. Specifically, they were asked to advise a 60-year-old single man who has no children and needs to make decisions regarding his retirement savings. For the amateur sample, each participant was asked to advise on either how to allocate retirement savings or whether to invest in a government bond fund versus a mutual fund. For the professional advisor sample, respondents provided recommendations on both investment and annuitization decisions, with the annuitization scenario presented first. Next, all respondents received additional information about the vignette individual's health and parental longevity. Providing this information allowed us to assess whether respondents altered their investment and annuitization recommendations to others, in response to the new information treatments.

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

6 Prolific ([www.prolific.com](http://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 usable, 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.

8 Specifically, and in line with the approach used in the University of Michigan Health and Retirement Study (HRS), we ask participants, *What is the percent chance [0–100] that you think you will live at least {X} more years?*, where the target age will vary by the respondent's sex and age as in the HRS. We also ask participants their subjective chances of living to an age five years younger {X-5} than in the previous question. (see Appendix Table A1)

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:

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

Each participant was then given additional information about the vignette individual's health status—the new information was integrated into the vignette's description. The five treatments (T1–T5) were:<sup>9</sup>

- 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.<sup>10</sup>
- 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, participants in the general population study were allocated to one of 12 treatments outlined in Table 1(a). The professional advisors were allocated to one of six treatments outlined in Table 1(b).

9 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).

10 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)

**TABLE 1. EXPERIMENTAL DESIGN: NUMBER OF PARTICIPANTS BY INFORMATION TREATMENT GROUP AND VIGNETTE PRESENTATION****(a) Amateur advisors**

Vignette presentation	Control	Poor health (T1)	Average health (T2)	Diagnosed with cancer (T3)	Father passed from cancer (T4)	Less severe cancer (T5)	Total
Annuitization	198	200	197	199	199	202	1,195
Investments	200	200	199	200	201	197	1,197
Total	398	400	396	399	400	399	2,392

**(b) Professional advisors**

Vignette presentation	Control	Poor health (T1)	Average health (T2)	Diagnosed with cancer (T3)	Father passed from cancer (T4)	Less severe cancer (T5)	Total
Annuitization & investments	196	197	197	197	197	167	1,151

Note: Amateur respondents (Panel a) were randomly allocated to an investment or an annuitization 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 annuitization vignette, and randomly assigned to receive either an additional informational treatment about health or longevity (T1–T5), or no additional information (control); see text.

## Methodology

To test the above hypothesis regarding the effects of one's own health and survival expectations (as well as the advisees' longevity and health information) on the recommendations, we first compute the difference between the respondent's subjective versus objective survival probability ( $SLE-LE$ ), where the latter is drawn from population life tables by age, sex, and cohort. A non-negative value indicates that the respondent *overestimated* the objective survival probability, and an *underestimator* was someone whose  $SLE-LE$  was less than 0.

The estimating equation of interest is a logit model indicating whether the respondent recommended that the advisee (1) annuitize or (2) buy government bonds, as follows:

$$(1) Y = \alpha + \beta_1(SLE - LE) + \beta_2 GoodHealth + \beta_3(T1) + \beta_4(T2) + \beta_5(T3) + \beta_6(T4) + \beta_7(T5) + \gamma'X + \epsilon.$$

Here, *good health* refers to the respondent's self-reported health (good health = 1 if self-reported health is good/very good/excellent; else 0), and T1–T5 refers to the specific informational treatment received about the advisee.  $X$  is a vector of other control variables, including the respondent's *age* (years); *nonwhite* = 1 if not white (else 0); *male* = 1 if male (else 0); *coll* = 1 if the respondent completed college (else 0); *married* = 1 if respondent was married (else 0); and *FinLit*, referring to the total number of financial

literacy questions the respondent answered correctly.<sup>11</sup> *Present preferences* are calculated using four questions about preferences for 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 received higher scores on a 0–4 scale.<sup>12</sup> Finally, we add controls for being consistent<sup>13</sup> and for subjective risk preferences. Because we are particularly interested in the interplay between own survival optimism and the advisee's information, the models are also estimated separately for underestimators and overestimators, as defined above.

- 11 We used the "Big Three" for eliciting financial literacy. On average, our respondents from the general population (Prolific) answered 2.62 out of 3 questions correctly, and the professional advisors answered 2.9 of the 3 questions correctly.
- 12 The average present preferences score was 2.01 and 1.3 in the general population and professional advisors' samples, respectively. See Khwaja et al. (2007) for details on the preference elicitation.
- 13 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 stated probabilities of 0 or 100..

## Results

We start by evaluating the impact of subjective survival assessments in comparison with the influence of informational interventions on informal advisors. To this end, we collected data using Prolific in an online survey of 2,400 individuals.<sup>14</sup> The mean age of the sample was 48, in a range of 35 to 88. Overall, 43% of respondents were male, and 23% had a college degree or more education. Additionally, 85% described their health as good or excellent; see Table 2.

**TABLE 2. DESCRIPTIVE STATISTICS: AMATEUR AND PROFESSIONAL ADVISORS**

Variable	Professional advisors (Greenwald)			Amateur advisors (Prolific)			T-test
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Diff
SLE-LE (%)	1,093	24.43	29.91	2,232	25.29	31.38	-0.86
SLE-LE2 (%)	1,100	13.77	28.39	2,252	9.70	30.76	4.08***
Underestimators	1,151	0.25	0.19	2,392	0.27	0.20	-0.02
Consistent	1,087	0.79	0.16	2,392	0.60	0.24	0.20***
Chose bond	1,151	0.49	0.25	1,197	0.66	0.22	-0.17***
Chose annuity	1,151	0.39	0.24	1,195	0.37	0.23	0.02
Age (yr)	1,151	54.53	10.48	2,392	48.37	10.46	6.16***
Male	1,151	0.87	0.11	2,392	0.43	0.24	0.44***
Post college	1,151	0.47	0.25	2,392	0.23	0.18	0.24***
Good health	1,151	0.94	0.06	2,392	0.85	0.13	0.09***
FinLit score	1,151	2.93	0.29	2,392	2.62	0.50	0.31***
Annuity knowledge	1,151	0.76	0.18	2,392	0.54	0.25	0.22***
Present pref	1,151	1.24	1.41	2,392	2.01	1.40	-0.77***
Subjective risk preference	1,151	8.26	1.69	2,388	4.32	2.59	3.95***
Objective risk preference	1,151	4.51	2.30	2,392	5.30	2.35	-0.78***
N	1,151			2,392			

Note: *SLE-LE*(%) denotes the discrepancy between the respondent's subjective and objective survival probabilities for reaching age X. *SLE-LE2*(%) indicates this discrepancy for reaching age X-5 (see Appendix Table A1). *Underestimators* is a dummy variable (set to 1 if an individual's subjective survival probability is lower than that 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 choosing 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 (following Holt and Laury, detailed in the text).

14 Eight individuals (0.33% of the sample) didn't provide responses to the vignette questions and were therefore excluded from the analysis.

Table 2 also presents descriptive data on the 1,151 professional advisors surveyed by Greenwald Research. The average age of this sample was 54.5, older than the Prolific sample, in a range of 35 to 91. The sample was predominantly male (87%); 47% of the participants had a college degree or higher. Additionally, 94% rated their health as good or excellent. Therefore, the professional advisors were about 6 years older, more likely to be men, and better educated, and they scored higher on measures of financial literacy and annuity knowledge.

## Effect of advisors' own survival and health information on their recommendations

Next, we examine the impact of participants' own subjective survival probabilities and health assessments on their recommendations to others. To do this, we conduct a multivariate logit analysis of the chance they recommend annuitizing (as opposed to opting for a lump sum at retirement) and choosing bonds (versus mutual funds), as shown in Table 3 and Table 4, respectively. For both tables, columns 1 to 3 cover the amateur sample; columns 4 to 6 present results for the professional advisors. Columns 1 and 2 show the full sample; columns 2 and 4 focus on the subset of respondents who underestimated their life expectancy compared with life tables; and columns 3 and 6 include only those who overestimated their life expectancy compared with life tables. The variable *SLE-LE* indicates the discrepancy between subjective survival probabilities and life table estimates for reaching old age.

**TABLE 3. HEALTH, SURVIVAL PROBABILITIES AND ANNUITIZATION ADVICE PROVIDED BY AMATEUR AND PROFESSIONAL ADVISORS, AVERAGE MARGINAL LOGIT EFFECTS**

	Chose annuity (Amateur/Prolific)			Chose annuity (Professional/Greenwald)		
	Full sample	Underestimators	Overestimators	Full sample	Underestimators	Overestimators
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 investing in annuitizing more (versus choosing a lump-sum option at retirement). Key control variables are SLE-LE and self-reported health (see text), the treatment information provided (health or survival probabilities, see text). 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 controls are reported in Appendix Table A3. Standard errors in parentheses. \*\*\* p < 0.01. \*\* p < 0.05

**TABLE 4. HEALTH, SURVIVAL PROBABILITIES AND INVESTMENT ADVICE PROVIDED BY AMATEUR AND PROFESSIONAL ADVISORS, AVERAGE MARGINAL LOGIT EFFECTS**

	Chose bond (Amateur/Prolific)			Chose bond (Professional/Greenwald)		
	Full sample	Underestimators	Overestimators	Full sample	Underestimators	Overestimators
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 more (versus investing in mutual funds). Key control variables are SLE-LE and self-reported health (see text), the treatment information provided (health or survival probabilities, see text). 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 controls are reported in Appendix Table A4. Standard errors in parentheses. \*\*\*  $p < 0.01$ . \*\*  $p < 0.05$

As previously noted, respondents from both the general population and the professional advisors sample overestimated their survival probabilities relative to life tables, with a mean difference of 25.29% and 24.43% between subjective and life table probabilities of living to old age, respectively.<sup>15</sup> On average, there was no significant difference between the *SLE-LE* of both groups, suggesting that both groups overestimated survival probabilities. However, professionals were more likely to overestimate their chances of living to even older ages, as indicated by *SLE-LE2*.

The results in Table 3 also document that, for the full sample of amateurs, *SLE-LE* has a significant positive impact on the likelihood of recommending annuitization to others, though the economic effect is small. This effect wasn't observed among professional advisors, for whom subjective survival expectations didn't affect recommendations to others. Nevertheless, models run for underestimators and overestimators separately show that, for both subsamples, these groups responded differently to other controls; in particular, respondent age shaped annuitization advice only for overestimators. Finally, while financial literacy

had no effect on annuitization recommendations, annuity knowledge was associated with a higher probability of recommending annuities.<sup>16</sup> The results further suggest that advisors' self-assessed health status had no impact on their recommendations to others.

The results in Table 4 indicate that advisors' own survival probabilities and subjective health status didn't significantly affect the likelihood of recommending bonds over mutual funds, for either amateurs or professionals. Heterogeneity analysis<sup>17</sup> shows that, while older amateur advisors were 0.8% (-0.005/0.65) less likely to recommend bonds to

15 Target ages varied by respondents' ages and sex, as discussed in Appendix table A1.

16 These results are provided in appendix Table A3.

17 Reported in appendix Table A4.



their hypothetical advisees, professional advisors' age didn't influence their investment recommendations. Financial literacy was significantly and negatively associated with amateur advisors' recommending bonds (by 7.7% =  $-0.05/0.65$ ), and professional advisors were much less likely to do so (by 30% =  $-0.149/0.49$ ). Annuity knowledge increased 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 didn't affect professionals' recommendations. Lastly, in both samples, respondents who were more risk-tolerant were less likely to recommend bonds (by 3% among amateurs and 5.7% among professionals).

## Annuitization recommendations when advisee survival and health information was provided

Next, we examine how giving advisors health and survival information about their advisees influenced their financial advice.<sup>18</sup> In the amateur sample, holding other variables at their means, providing information about an average individual's chance of reaching age 90 (T2) increased the likelihood the advisor would recommend annuitization by 56% (=  $0.212/0.38$ ), with a slightly stronger effect among overestimators in the general population. The strong impact of the longevity risk information of a person with average health on annuitization recommendations confirms the conclusion that many in the general public don't understand longevity risk and are surprised by the high probability of living to advanced ages (as in 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 fell dramatically, by 63% (=  $-0.242/0.38$ ). Other information was less impactful: Information about 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), had no effect on annuitization recommendations in the amateur sample.

By sharp contrast, all information provided on advisees had significant effects on professional advisors' recommendations, with much of the effect arising from overestimators. Overall, our results indicate that providing information on advisees' health and survival probabilities decreased the likelihood of advisors recommending annuitization. Specifically, holding all other variables at their means, providing professional advisors with information about the survival chances of an advisee in poor health reaching age 90 (T1) significantly reduced the chance of an annuitization recommendation, by 33% (=  $-0.13/0.39$ ). Telling them longevity information about the chances of

an advisee in average health reaching age 90 reduced annuitization recommendations by 25% (=  $-0.099/0.39$ ). Information about a father who died of cancer reduced the likelihood of 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 was the information on stomach cancer, which significantly decreased the likelihood of annuitization recommendations by 91% (=  $-0.356/0.39$ ). Accordingly, the professional advisors proved to be far more able to adapt their financial advice to an advisee's characteristics, compared with the lay population.

## Investment recommendations when advisee survival and health information was provided

In the amateur sample, giving the respondents information on the advisee's health and survival chances had only small and modestly significant effects on investment recommendations. Specifically, telling these respondents about an average individual's chance of reaching age 90 (T2) increased their likelihood of recommending bonds (by 13% =  $0.084/0.65$ ); this effect was also more pronounced among underestimators (20% =  $0.133/0.65$ ). By contrast, giving them information about a cancer diagnosis had no effect on the asset allocation advice they provided.

Among the professional advisor sample, providing the advisee's longevity and health information also had small effects on investment recommendations, with the main effects being concentrated among overestimators. Here, learning that the advisee's father had died of cancer did significantly reduce the recommendation to buy equities by 27% (=  $0.133/0.49$ ). Information about the vignette individual being in poor health (T1) had a similar effect among overestimators, but this was significant only at the 10% level.

In sum, our results show that providing people with information about their advisees' health and survival probabilities did alter annuitization recommendations, for both amateur and professional respondents. These results

18 Each participant in the general population sample was exposed to either an annuitization or an investment vignette; the professional advisors were exposed to both annuitization and investment vignettes.

align with our previous work (Hurwitz et al., 2022), where we provided people in the general population with information on life expectancy and the probability of surviving to old age; there we observed that the longevity risk information increased their recommendations to annuitize. In the present study, this information also changed advisors' investment recommendations, though the effect was less statistically significant for the amateur sample, and more significant among professionals.

## Discussion

We set out to explore what kind of retirement-related financial advice is provided by professional and amateur financial advisors, and how this advice changes when respondents receive their own and advisee-specific longevity and health risk information. Results aren't consistent with *Hypothesis 1*, which proposed that advisors' own survival probabilities and own health conditions would influence advice given by both amateur and professional advisors. Although subjective survival probability information did affect recommendations to annuitize among amateurs asked to provide advice, the effect was relatively minor in economic terms. Additionally, professional advisors' recommendations weren't much influenced by the advisors' own subjective survival probabilities, with only a small effect seen among advisors who underestimated their own survival probabilities. Similarly, advisors' own subjective health assessments didn't alter the advice provided in either sample.

Regarding *Hypothesis 2*, we did find that informing both amateur and professional advisors about clients' survival probabilities in retirement—due to illness or parental longevity—prompted them to adjust their recommendations about annuities and investment portfolios for the vignette individuals. This effect was quite pronounced when advising about annuitization. Specifically, when given information about the advisee's severe cancer diagnosis, amateurs and professionals were, respectively, 63% and 91% less likely to recommend annuitization.

Our results also support *Hypothesis 3*, showing that amateur advisors reacted more strongly than professional advisors to salient information about the advisee, such as having severe cancer or being in average health. The professional advisors responded to all the additional longevity and health information provided.

In terms of magnitudes, the professional advisors were far more responsive than the amateur advisors to new information about their advisees. That is, the professionals given information about the likelihood of an advisee in poor health reaching age 90 decreased their annuitization recommendations by 33%; when shown information about the chances of an advisee in average health reaching age

90, annuitization recommendations dropped by 25%. Telling advisors that the advisee's father died of cancer curtailed annuitization recommendations by 31%, the same as giving them information about a less severe cancer type (-31%). Information on stomach cancer dramatically reduced their annuitization recommendations by 91%. In contrast, amateur advisors only adjusted advice in a couple of cases—and in opposite directions. They reduced their annuity recommendations by 63% when presented with information on severe cancer, but increased them by 56% in response to average health survival probabilities.

Finally, the new information had minimal impact on investment advice for both types of advisors. Interestingly, amateur advisors were about 13% more likely to recommend investing in bonds (significant at the 10% level) when given information about an advisee in average health reaching age 90. This finding is notable, because it implies that amateurs may suggest a lower portfolio risk when anticipating a longer time horizon. Professional advisors, on the other hand, only adjusted their bond recommendations in response to information about the advisee's father dying of cancer, and they were about 27% more likely to suggest that the advisees invest in bonds.

## 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. Moreover, both amateur and professional advisors could be misinformed or act in their own interests rather than those of their clients. Our study enhances understanding of the factors shaping advisor-provided investment and annuitization decisions, and it also facilitates a direct comparison of recommendations from amateur and professional advisors.

We contribute to the literature by demonstrating that advisors, particularly professionals, don't rely overly much on 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 overweight their own investment preferences over those of their advisees (Anagol et al., 2017). Our findings further indicate that providing advisors with specific information about advisees' longevity and health influences the advice they provide. Moreover, professional advisors prove to be more sensitive to the significance of information received about their advisees, compared with amateurs. While amateurs adjusted their recommendations when given relatively simple longevity and health risk information, professionals reacted to all of the longevity and health information provided. We also observe that, while the impact of the informational treatments affected all respondents, the

professional advisors reacted more strongly, especially if they overestimated their own survival probabilities. This suggests that, even when professionals have biases, they still adjust their recommendations to advisees' characteristics.

Additionally, we provide evidence that, among amateur advisors, receiving information about the likely longevity of a person in average health increased their chance of recommending annuitization. In contrast, the same information led to a (weak) recommendation to annuitize less among professionals. This implies that amateurs don't understand longevity risk, by and large, whereas professionals are better informed.

Overall, our findings indicate that, although many people rely on informal advice from friends or family, such amateur advisors may lack the capability to accurately analyze and utilize key information needed to provide appropriate advice. This underscores the need to enhance longevity literacy in the general population, consistent with Yakoboski et al. (2023). Moreover, it would be useful to conduct more research on how advisors learn about and embed their customers' needs in their recommendations, to help them do a better job building old-age financial resilience.

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APPENDIX TABLE A1. LIVE TO AGE X AND X-5 BY SEX AND AGE

Fills by age and gender				
Age	Male		Female	
	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. DESCRIPTIVE STATISTICS OF PROFESSIONAL ADVISORS (GREENWALD) SAMPLE**

Variable	N	Mean	Std. Dev.
Financial major	1,151	0.70	0.21
Psychology major	1,151	0.03	0.03
Net wealth (\$1M)	820	3.84	14.16
Level of #Clients	1,151	2.90	1.58
CFP	1,151	0.32	0.22
CPA	1,151	0.01	0.01
CFA	1,151	0.02	0.02
CLU	1,151	0.05	0.04
CFS	1,151	0.01	0.01
PFS	1,151	0.00	0.00
RICP	1,151	0.02	0.02
Series 7	1,151	0.37	0.23
SLE-confidence	1,151	3.08	0.63
Client longevity assessment	1,151	2.71	0.65
Educating_clients	1,151	3.58	0.55
Health for planning	1,151	0.91	0.08
Smoking for planning	1,151	0.79	0.16
Family health/longevity for planning	1,151	0.87	0.11
N	1,151		

Note: *Financial major* and *Psychology major* are dummy variables for majoring in financial related topics and psychology related topics, additional variables include net wealth, level of number of retail clients (see text), and dummy variables indicating certifications held, including CFP, CPA, CFA, CLU, CFS, PFS, RICP, and Series7. Confidence in subjective survival probability (SLE confidence) is rated on a scale from 1 (not confident at all) to 4 (very confident). *Client longevity assessment* reflects the advisor's evaluation of the clients' understanding of longevity. The advisor's self-reported comfort in educating clients on longevity-related topics is captured by the variable "*Educating clients*." *Health for planning*, *Smoking for planning*, and *Family health/longevity for planning* are dummy variables indicating whether advisors consider these characteristics in their planning processes.

**APPENDIX TABLE A3. HEALTH, SURVIVAL PROBABILITIES AND ANNUITIZATION ADVICE PROVIDED BY AMATEUR AND PROFESSIONAL ADVISORS, AVERAGE MARGINAL LOGIT EFFECTS**

	Chose annuity (Amateur/Prolific)			Chose annuity (Professional/Greenwald)		
	Full sample	Underestimators	Overestimators	Full sample	Underestimators	Overestimators
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)
Age	0.003** (0.001)	-0.001 (0.003)	0.005*** (0.002)	0.004** (0.002)	0.004 (0.003)	0.004** (0.002)
Male	0.001 (0.032)	0.001 (0.060)	0.009 (0.039)	-0.028 (0.047)	-0.146 (0.107)	0.003 (0.054)
Post college	0.063* (0.037)	0.100 (0.076)	0.051 (0.044)	0.031 (0.031)	0.081 (0.063)	0.020 (0.036)
FinLit score	0.008 (0.024)	0.039 (0.055)	0.008 (0.027)	-0.023 (0.054)	-0.053 (0.105)	-0.012 (0.065)
Annuity knowledge	0.077** (0.030)	0.051 (0.055)	0.096*** (0.037)	0.114*** (0.034)	0.155** (0.061)	0.096** (0.042)
Present pref	0.002 (0.011)	-0.020 (0.019)	0.008 (0.014)	0.010 (0.011)	-0.012 (0.020)	0.021 (0.013)
Subjective risk preference	0.007 (0.006)	-0.005 (0.010)	0.012* (0.007)	0.000 (0.009)	0.015 (0.018)	-0.007 (0.011)
Consistent	0.041 (0.032)	0.032 (0.068)	0.043 (0.038)	0.000 (0.040)	-0.009 (0.094)	0.008 (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	0.40

Note: Table A3, presents average marginal effects from Logit regression of participants' propensity to recommend investing in annuitizing more (versus choosing a lump-sum option at retirement). Key control variables are SLE-LE and self-reported health (see text), the treatment information provided (health or survival probabilities, see text). 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. HEALTH, SURVIVAL PROBABILITIES AND INVESTMENT ADVICE PROVIDED BY AMATEUR AND PROFESSIONAL ADVISORS, AVERAGE MARGINAL LOGIT EFFECTS**

	Chose bond (Amateur/Prolific)			Chose bond (Professional/Greenwald)		
	Full sample	Underestimators	Overestimators	Full sample	Underestimators	Overestimators
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)
Age	-0.005*** (0.001)	-0.003 (0.003)	-0.006*** (0.002)	0.002 (0.002)	0.003 (0.003)	0.002 (0.002)
Male	-0.027 (0.030)	-0.045 (0.059)	-0.023 (0.036)	0.018 (0.049)	-0.001 (0.102)	0.023 (0.056)
Post college	0.033 (0.034)	0.034 (0.068)	0.026 (0.040)	-0.010 (0.032)	-0.073 (0.062)	0.015 (0.037)
FinLit score	-0.050** (0.025)	-0.065 (0.068)	-0.047* (0.026)	-0.149** (0.064)	-0.029 (0.118)	-0.202*** (0.077)
Annuity knowledge	0.064** (0.030)	0.074 (0.057)	0.062* (0.035)	0.094*** (0.036)	0.049 (0.069)	0.120*** (0.043)
Present pref	0.023** (0.011)	-0.004 (0.020)	0.035*** (0.013)	0.015 (0.011)	0.027 (0.021)	0.012 (0.013)
Subjective risk preference	-0.020*** (0.006)	-0.023** (0.011)	-0.019*** (0.007)	-0.028*** (0.010)	-0.036* (0.020)	-0.024* (0.013)
Consistent	0.019 (0.031)	-0.066 (0.062)	0.050 (0.036)	0.000 (0.039)	0.034 (0.099)	-0.003 (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	0.50	0.49

Notes: Table A4, presents average marginal effects from Logit regression of participants' propensity to recommend investing in bonds more (versus investing in mutual funds). Key control variables are SLE-LE and self-reported health (see text), the treatment information provided (health or survival probabilities, see text). 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

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