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The Overlooked Cost: How Long-Term Services and Supports Impacts Retirement-Income Adequacy

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Executive Summary

This report analyzes the impact of long-term services and supports, or LTSS, on retirement-income adequacy, using the Morningstar Model of US Retirement Outcomes. In the analysis, we simulate retirement-income adequacy under our baseline assumptions and compare the results with a counterfactual scenario in which LTSS costs are set to $0. We also estimate the likelihood of needing LTSS and quantify the present value of LTSS costs for baby boomers. Our key findings are below.

1. The percentage of households projected to run short of money in retirement dramatically decreases when LTSS costs are set to $0, highlighting the significant impact of LTSS on retirement outcomes. Focusing on the results by family status (we report other breakdowns in the body of the report):
    a. The biggest decrease was for single females, with 52% projected to be at risk when LTSS costs are included, compared with 34% without LTSS costs.
    b. Significant decreases are also observed for couples (37% to 22%), single males (36% to 23%), and all households in aggregate (41% to 26%).
2. About 43% of baby boomers are projected to incur LTSS costs in retirement. We also calculated the probability of needing LTSS in retirement by age at death to illustrate how longevity risk and LTSS risk are interconnected:
    a. For men, the probability of needing LTSS in retirement was 24% for those who passed away at age 75, jumping to 40% at age 85, and increasing to 52% at age 95.
    b. For women, the probability increased from 27% for those who passed away at 75, to 45% at 85, and 60% at age 95.
3. There is significant skewness in the distribution of LTSS costs. In many cases, no paid LTSS was needed, but when LTSS is needed, the costs are substantial. We report both the unconditional mean present value of LTSS costs (across all households) and the conditional mean (only among those who incur LTSS costs) for baby boomers from retirement age through death. These estimates reflect the costs a household would have to pay to avoid spending down to qualify for Medicaid-financed LTSS or otherwise relying on charity.
    a. For single men, the unconditional (conditional) mean was $70,939 ($185,926).
    b. For single women, the unconditional (conditional) mean was $116,090 ($247,873).
    c. For couples, the unconditional (conditional) mean was $158,338 ($251,137).
    d. For all households, the unconditional (conditional) mean was $130,790 (242,373).

Background

The United States' population is aging. In fact, according to Vespa et al. (2020), the number of Americans aged 65 and older will rise from 56.1 million in 2020 (17% of the population) to 80.8 million in 2040 (22%).

As the population of older Americans grows, the demand for long-term services and supports—which refers to a broad range of services to assist individuals who have trouble with activities of daily living—will almost certainly increase. Johnson (2019) analyzed the lifetime risk of needing and receiving LTSS with data from the Health and Retirement Study, noting that 70% of adults who survive to age 65 will develop severe[1] LTSS needs and 48% will receive some type of paid LTSS (including Medicaid-financed nursing home care) over their lifetime.

Requiring LTSS might be the most significant risk to retirement-income adequacy for older Americans. The costs are substantial, with monthly expenses in the thousands of dollars, whether for in-home care, assisted living, or nursing home facilities (Genworth, 2023). Johnson (2016a) found that wealth levels tend to decline sharply when older-age adults develop severe disabilities or receive nursing home care. Moreover, there is significant skewness in lifetime LTSS costs, as care needs and duration of care vary widely among individuals (we report statistics later herein for baby boomers).

When it comes to funding LTSS, many Americans mistakenly believe that Medicare covers the costs. In reality, Medicare does not—Medicare benefits are limited to acute care services (Bipartisan Policy Center, 2014).[2]

The other major public health program in the United States, Medicaid, does provide for LTSS. However, to qualify for Medicaid-financed LTSS, individuals must meet both financial and functional eligibility requirements, which vary by state (Medicaid is a joint federal-state program). For example, to qualify for Medicaid-financed nursing home care in Illinois, a single individual must have a monthly income below $1,304.17 and assets under $17,500.[3] The individual would also need to meet the criteria for nursing home level of care, which, among other factors, considers one's ability to perform activities of daily living and cognitive impairment as well as behavioral issues often related to dementia.[4] As a side note, Illinois' income limit is one of the lowest in the nation, while the asset limit is much higher than the standard $2,000 limit applicable for most states.

Given the high costs of LTSS and the strict eligibility requirements for Medicaid, private long-term-care insurance is an option for those looking to protect their assets. However, the market is rather limited. Recent analysis shows that the market has stagnated and become more concentrated (for example, refer

1 The author defined severe: (1) having difficulty with two or more activities of daily living lasting at least 90 days or severe cognitive impairment and (2) receiving unpaid care from family or friends or paid LTSS.

2 Medicare covers post-acute stays in a skilled nursing home facility. It also covers some intermittent home-health services. In both cases, Medicare does not cover care on a long-term basis.

3 Refer to https://www.medicaidplanningassistance.org/medicaid-eligibility-illinois/ for more details regarding the definition of the income limit; the site also provides information for other states in the US.

4 Refer to https://www.medicaidplanningassistance.org/nursing-home-level-of-care/

to Cohen, 2016; Johnson, 2016b; Colello, 2023). As a result, a small number of Americans hold policies—about 7.5 million have some type of coverage according to Colello (2023)—leaving many to rely on personal savings or spending down to qualify for Medicaid when care is needed.

While we do not factor this into our analysis, note that many individuals receive unpaid care from family members, which may carry significant economic and personal costs to the provider. Indeed, Favreault and Johnson (2021) quantified the costs of informal LTSS for individuals at age 65, noting that the mean present value on a real basis was $111,200. When conditioning on just those with a simulated use of informal LTSS, the mean present value was $192,600.

There is previous research on the impact of LTSS needs on retirement outcomes. Bajtelsmit et. al (2013) simulated retirement-income adequacy for a small number of preretiree households, generally finding that small adjustments to a retirement plan—such as reducing spending or changing the retirement age—are inadequate to address the tail risks associated with shock events, which include long-term-care needs. VanDerhei (2014) analyzed the impact of nursing home and home-health care costs on retirement readiness ratings, noting a significantly higher likelihood of sufficient money in retirement for those without LTSS costs. VanDerhei (2015) reached a similar conclusion when analyzing retirement-shortfall results for model runs with and without LTSS costs factored in.

In the rest of this paper, we investigate the impact of LTSS needs on retirement-income adequacy with the Morningstar Model of US Retirement Outcomes. We report the percentage of households simulated to run short of money in retirement under our baseline, which includes LTSS costs, and under a counterfactual wherein we assume LTSS costs are zero.

Our results help expand our earlier discussion on whether there is a retirement crisis in the United States (Look and VanDerhei 2024a). Notably, the model results excluding LTSS costs are more in line with optimistic assessments of retirement outcomes for the working population, highlighting the significant impact of omitting LTSS costs or assuming another source will cover them. We also report the present value of LTSS costs under several different sets of assumptions. Lastly, note that we plan on analyzing the impact of policy proposals and private long-term-care insurance on retirement outcomes in later papers.

Brief Background on the Morningstar Model of US Retirement Outcomes

The Morningstar Model of US Retirement Outcomes, or the Model, is a sophisticated tool used to predict the financial outcomes of American households in retirement. By using detailed data from a variety of sources, including the Survey of Consumer Finances, or SCF, the Model simulates various factors such as income, expenses, investments, and health to project retirement-income adequacy.

Key features of the Model include:

- Comprehensive data input: Incorporates a wide range of household characteristics and financial information.
- Stochastic modeling: Uses probability-based simulations for both the accumulation and decumulation periods.
- Realistic behavior: Models household behavior, including savings rates, withdrawal patterns, job turnover, and cashouts.
- Tax implications: Calculates federal and state income taxes on retirement income.
- Housing wealth: Considers the role of home equity in retirement planning.
- Longevity and health risks: Accounts for the impact of long-term-care expenses on retirement finances.

Elaborating on the last point, we use a health state transition model to simulate the health of each household member in retirement. The possible states include: 1) good health, 2) poor health, 3) in-home healthcare, 4) in a nursing home, or 5) passed away.[5] The Model has specific states for LTSS, because requiring paid LTSS is one of the most significant risks for retirees, as demonstrated later herein.

LTSS expenses are stochastic and only occur in cases wherein a household member is either using home health care or in a nursing home (per the health state transition model described above). LTSS expenses are based on national median costs from Genworth's 2023 Cost of Care Survey.

The Model uses a retirement-funded ratio metric to assess financial sufficiency in retirement. This is calculated for each of the 1,000 simulated life paths for each household. The numerator is the sum of real (that is, inflation-adjusted) income across all retirement years plus any leftover assets at the time of death, if applicable. The denominator is the sum of real expenses[6] (also across all retirement years). This metric shows the magnitude of the shortfalls, with retirement-funded ratios that are well below one, indicating significant shortfalls. The Model also calculates the amount of wealth that a household has at

5 The health state model was built based on data from the Health and Retirement Study. We used the approach detailed by Fong et. al (2015). Note that we plan on expanding the health state model to include distinct categories for community and assisted living in the future.

6 Expenses consist of two elements: 1) standard expenses assuming no LTSS costs and 2) LTSS costs. Standard expenses are based on the 2019 RAND CAMS dataset supplement to the Health and Retirement Study. LTSS costs are based on Genworth's Cost of Care Survey.

retirement age (assumed to be 65 herein).[7] Please refer to the technical appendix for more information on the Model.[8]

The Model used in this analysis incorporates several enhancements to assumptions compared with the version of the Model used in our prior papers (for example, refer to Look and VanDerhei (2024a) in which we studied retirement-income adequacy under the status quo, and Look and VanDerhei (2024b) where we analyzed the Retirement Savings for Americans Act). In particular, we are now probabilistically simulating defined-contribution plan fees (based on Mitchell, 2025). We also updated our assumption on DC-plan access rates to not only vary by industry but also income level (based on the 2022 SCF). Moreover, we now simulate IRA contributions that vary by age with younger individuals contributing less compared with their older counterparts (Schrass and Holden, 2024).

Lastly, we are now applying a multiplier to reduce projected retirement expenses when a household is starting to run low on money. The multiplier is intended to decrease the spending need such that the household only funds nondiscretionary, or essential, expenses. This adjustment only applies to non-LTSS expenses. Multipliers are generally near 0.9, varying based on the household's income level. The balance thresholds for applying these adjustments also vary by income level. This methodology is based on analysis of spending data in the Consumption and Activities Mail Survey supplement for the Health and Retirement Study.

Study Methodology

To analyze the impact of LTSS on retirement outcomes, we run the Model with different configurations. Our baseline run includes LTSS costs, which increase annually by inflation. In this run, we assume that LTSS inflation outpaces price inflation by 1.9% per year (this is based on Yogo 2016).[9] Second, we run a counterfactual in which there are no LTSS costs. This could be interpreted as a scenario in which another entity pays for all LTSS costs. In the third run, we run the Model with LTSS costs included but assume that LTSS costs grow at the same rate as price inflation. With this run, we isolate the impact of the additional LTSS inflation on LTSS costs.

In the next section, we report the percentage of households simulated to run short of money under the first two runs. We then document the present value of LTSS costs from all three runs, focusing specifically on the baby boomer age cohort.

7 For example, this output metric was recently used in Look and VanDerhei (2025) to study the impact of the Saver's Match on retirement wealth. Refer to our study.

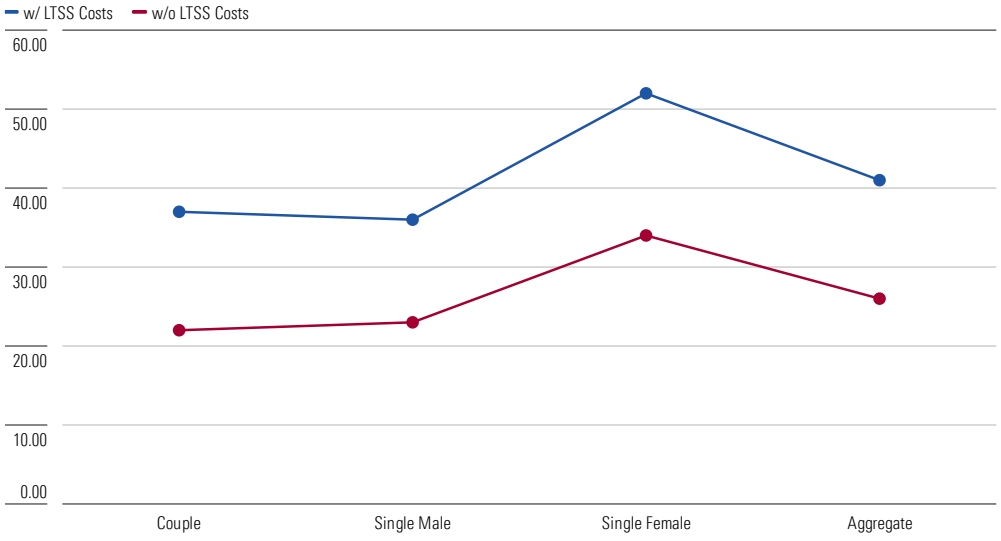
8 Refer to our technical appendix.

9 We expect LTSS costs to grow at a higher rate than general price inflation due to rising demand. For example, BPC (2014) notes that the caregiver support ratio is projected to decline from seven caregivers per person over age 80 in 2010 to just four in 2030.

Results

We started by analyzing retirement-income adequacy by family status, comparing outcomes with and without LTSS costs. We focused on cases wherein the household was projected to run short of money (that is, cases in which the retirement-funding ratio is less than 1). Intuitively, we found that the percentage of households at risk of retirement-income inadequacy significantly decreased when no LTSS costs were assumed. The largest decline was for single females, with 52% projected to be at risk when LTSS costs are included, compared with 34% without LTSS costs. Significant decreases were also observed for couples (37% to 22%), single males (36% to 23%), and all households in aggregate (41% to 26%). Results are displayed in Exhibit 1 below. Results corresponding to other retirement-funding ratios are included in Exhibit A.1 in the Appendix.

Exhibit 1: Percentage of Americans Aged 20+ With Retirement-Funding Ratio Less Than 1 by Family Status With and Without LTSS Costs

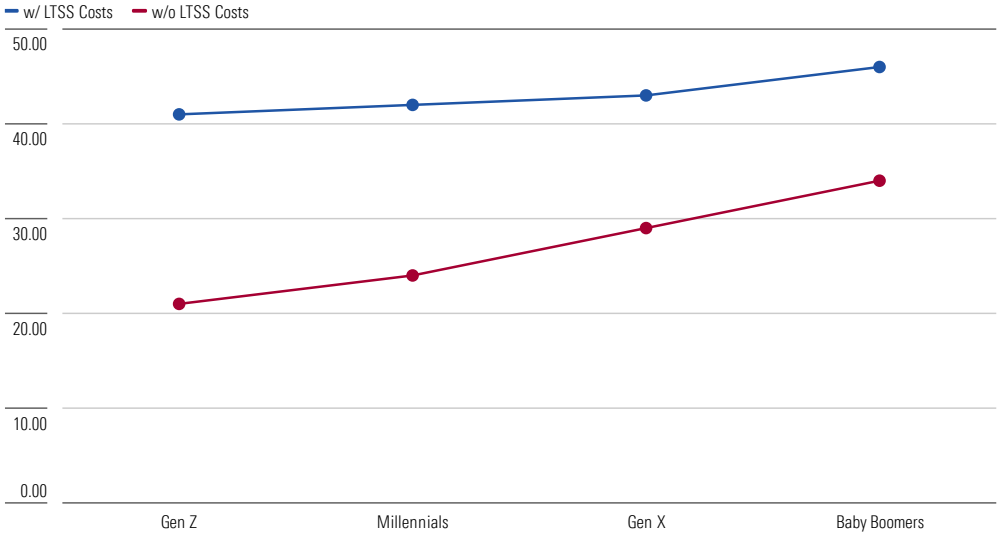


Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

The largest decrease occurred for single women because women have longer life expectancies than men and living longer increases the risk of needing LTSS. The impact is not as pronounced for women who are part of a couple because couples tend to have more resources than single women.

Next, we compared retirement-income adequacy results with and without LTSS costs by age cohort. The biggest decrease in the percentage at risk of retirement-income inadequacy occurred for the Generation Z age cohort, with 41% at risk with LTSS costs but only 21% at risk without. The decreases are smaller for the other age cohorts. The percentage of millennials at risk dropped from 42% to 24%, whereas the percentage of Generation X at risk went from 43% to 29%. The smallest decrease occurred for baby boomers, which moved from 46% at risk to 34%. Results are displayed in Exhibit 2 below. Results corresponding to other retirement-funding ratios are included in Exhibit A.2 in the Appendix.

Exhibit 2: Percentage of Americans Aged 20+ With Retirement-Funding Ratio Less Than 1 by Age Cohort With and Without LTSS Costs



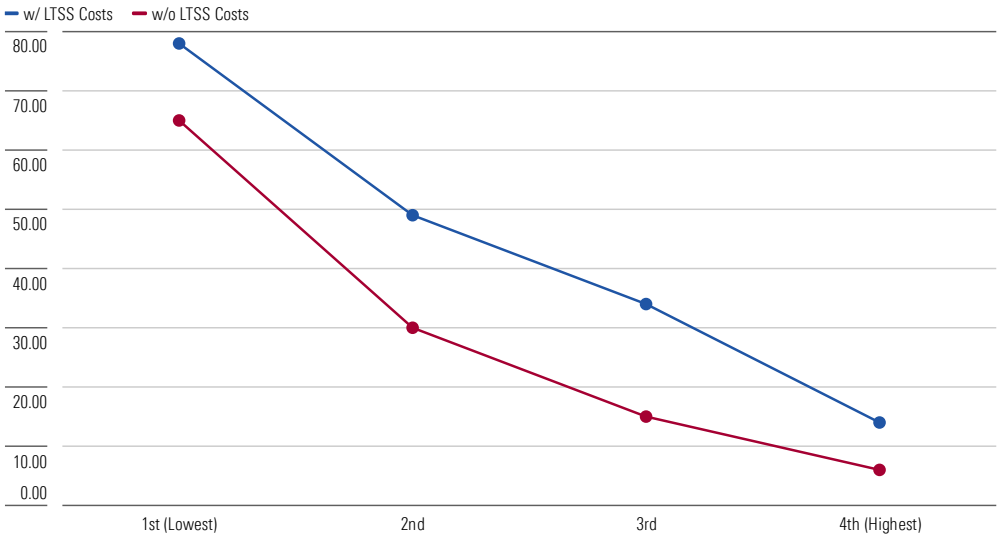
Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

The larger decreases in the percentage at risk of retirement-income inadequacy for the Gen Z and millennial age cohorts are largely due to the compounding effects of LTSS inflation. Since we model LTSS costs growing at a faster rate than price inflation, the longer time horizon for Gen Z and millennials amplifies the cost differential compared with those closer to retirement. Another factor is mortality improvement, which leads to longer life expectancies for younger generations, all else equal. For example, a person who is currently 25 and reaches age 65 will, on average, have a longer life expectancy than someone who is currently 65. As we previously noted, longer life expectancy increases the need for LTSS.

We next focused on the results across income quartiles. Our income quartiles are based on the average indexed monthly earnings,[10] or AIME, calculated for each household member as part of the Model's estimation of Social Security benefits.[11] The results show that there is a particularly large impact on the percentage at risk of retirement shortfalls for the second and third AIME quartiles. Specifically, the percentage at risk for the second AIME quartile went from 49% to 30% when LTSS costs are excluded, while the third AIME quartile saw a decrease from 34% to 15%. The results for the first and fourth AIME quartiles show smaller differentials.

Results are displayed in Exhibit 3 below. Results corresponding to other retirement-funding ratios are included in Exhibit A.3 in the Appendix.

Exhibit 3: Percentage of Americans Aged 20+ With Retirement-Funding Ratio Less Than 1 by AIME Quartile With and Without LTSS Costs



Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

The differentials are larger for the second- and third-AIME quartiles because these households tend to have enough savings to cover some LTSS costs but not enough to fully absorb them without facing shortfalls. The differentials are smaller for the first- and fourth-AIME quartiles. Starting with the former, lower-income households often have limited savings, meaning that a large percentage may run short of money regardless of health shocks. In contrast, higher-income households typically have sufficient assets to cover LTSS expenses, if they are simulated to occur.

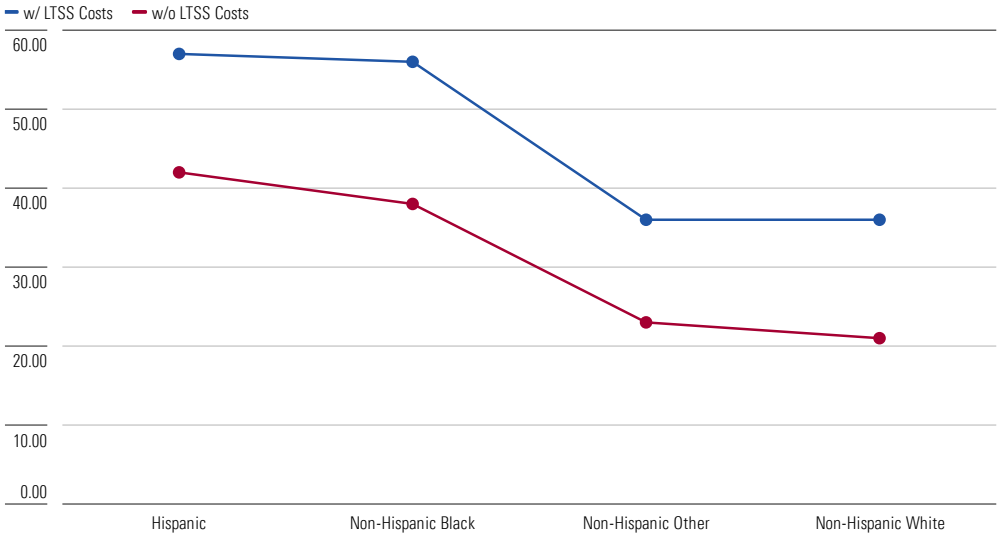
10 Average indexed monthly earnings refer to a worker's average earnings, wherein wages are adjusted to account for differences in the standard of living over time. Social Security benefits are typically calculated using average indexed monthly earnings. Refer to https://www.ssa.gov/oact/cola/Benefits.html

11 We only include earnings up to the maximum taxable wage base in our calculations.

Focusing on the results from a race and ethnicity perspective, we found that the largest differential in the risk of retirement-income inadequacy was for non-Hispanic Black Americans, with the likelihood of shortfalls decreasing from 56% with LTSS costs to 38% without. Hispanic Americans and non-Hispanic white Americans also saw substantial declines, from 57% to 42% and 36% to 21%, respectively. Non-Hispanic other Americans saw the smallest decrease, moving from 36% to 23%.

Results are displayed in Exhibit 4 below. Results corresponding to other retirement-funding ratios are included in Exhibit A.4 in the Appendix.

Exhibit 4: Percentage of Americans Aged 20+ With Retirement-Funding Ratio Less Than 1 by Race and Ethnicity With and Without LTSS Costs



Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

The largest decrease in the risk of shortfalls occurred for non-Hispanic Black households. This is because this group has a higher share of single women than others, and single women are more likely than single men to require paid LTSS. The smallest decrease occurred for non-Hispanic other households, as this group tends to have a substantial amount of wealth.

Projected LTSS Needs and Costs for Baby Boomers

While the results vary by perspective, the decrease in the percentage of households facing retirement-income inadequacy when no LTSS costs are assumed is consistently substantial.

To illustrate why, we first analyzed the likelihood of baby boomers incurring LTSS costs in retirement. Overall, we found that about 43% will need LTSS. To explore how LTSS risk varies with longevity, we then estimated the likelihood of baby boomers incurring LTSS costs in retirement by age at death. Among men, we found that the probability of needing LTSS in retirement was about 24% for those who passed away at age 75. The likelihood jumped to 40% when looking at men who passed away at age 85 and increased even further to 52% for men who died at age 95. The statistics for women follow a similar pattern, but the rates are higher. Specifically, for women who passed away at age 75, 27% incurred LTSS costs. For those who passed away at age 85, the rate was about 45%, and at age 95, the rate was approximately 60%. These results show that longevity risk and LTSS risk are interconnected. Households should consider both together rather than thinking about each risk in isolation. Refer to Exhibit 5 below.

Exhibit 5: Percentage of Baby Boomers With LTSS Needs in Retirement by Death Age

Gender	75	80	85	90	95
Male	23.99%	32.27%	40.08%	46.42%	51.80%
Female	27.38%	36.49%	45.29%	52.20%	59.99%

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Results are for baby boomers.

These rates are comparable with the probabilities of paid LTSS by age of death reported by Johnson (2019),[12] which is not surprising given that we also used the Health and Retirement Study as the basis for our health state model. Moreover, we note that our projected rates for needing LTSS in retirement are generally similar to the rates reported by Favreault and Johnson (2021), who also used Health and Retirement Study data in the development of their model, in addition to the Medicare Current Beneficiary Study and the National Health and Aging Trends Survey.

12 Refer to Table 3 in their paper.

We now report the present value of LTSS costs for baby boomers. As a reminder, LTSS costs are based on Genworth's 2023 Cost of Care Survey. Because we do not vary the costs by payer, our results are best interpreted as the costs a household would have to pay to avoid spending down to qualify for Medicaid-financed LTSS or otherwise relying on charity.

We use results from two Model runs in this section. Specifically, we use results wherein we assume LTSS costs grow 1.9% per year above price inflation (Yogo, 2016); the retirement-funding ratio results presented in the prior section were sourced from this run. We also present results from a run in which we assume LTSS costs grow at the same rate as price inflation. In other words, there is no additional LTSS inflation. We calculate the present value of LTSS costs in three ways:

A. PV of LTSS costs: We calculate the PV of LTSS costs as of retirement age (we assume age 65) using a discount rate that accounts for both price inflation and the Social Security Trustees' long-range price growth average of 2.4%.[13] This metric represents the lump sum of money needed at retirement to cover future LTSS costs assuming that the money is invested in a portfolio that outpaces inflation by 2.4% annually.

B. Real LTSS costs: We also calculate the sum of real (that is, inflation-adjusted) LTSS costs incurred in retirement. In this case, LTSS costs are discounted to retirement age using our simulated price inflation rates. This metric represents the lump sum of money needed at retirement to cover future LTSS costs assuming the money is invested in a portfolio that grows with inflation.

C. Real LTSS costs without additional LTSS inflation: The calculation is the same as with the above metric, with LTSS costs discounted to account for price inflation. The only difference is that the Model's simulated LTSS costs grow at the same rate as price inflation, instead of outpacing price inflation. This metric is intended to demonstrate the impact of the LTSS inflation assumption.

Exhibit 6 includes panels for the present value of LTSS costs calculated under all three methods. The unconditional costs represent LTSS costs for all households, regardless of whether they needed LTSS. The conditional costs reflect the expenses for households that were simulated to need LTSS.

The results reflect the skewness in the distribution of LTSS needs. It is notable that the unconditional median for single men and single women is $0, which shows that, in at least one half of the cases, no paid LTSS is needed. However, when LTSS is required, the costs are substantial. We note that the unconditional mean PV of LTSS costs (panel A) for all households (which aggregates couples and singles) is $130,790, whereas the conditional mean is $242,373. The costs almost double when looking at real LTSS costs (panel B), with an unconditional mean of $237,181 and a conditional mean of $439,528. The costs are still significant when looking at real LTSS costs without additional LTSS inflation; the unconditional mean is $150,451 while the conditional mean is $278,805.

13 Refer to https://www.ssa.gov/oact/TR/2024/2024_Long-Range_Economic_Assumptions.pdf

Exhibit 6: Projected LTSS Costs From Retirement Age Through Death for Baby Boomers

Panel A: PV of LTSS Costs

Category	Unconditional Mean	Unconditional Median	Conditional Mean	Conditional Median
Couple	$ 158,338	$ 79,474	$ 251,137	$ 177,202
Single Male	$ 70,939	$0	$ 185,926	$ 126,865
Single Female	$ 116,090	$0	$ 247,873	$ 174,278
Overall	$ 130,790	$ 42,249	$ 242,373	$ 170,333

Panel B: Real LTSS Costs

Category	Unconditional Mean	Unconditional Median	Conditional Mean	Conditional Median
Couple	$ 295,695	$ 123,556	$ 468,997	$ 305,615
Single Male	$ 116,332	$0	$ 304,899	$ 195,801
Single Female	$ 202,321	$0	$ 431,986	$ 280,658
Overall	$ 237,181	$ 65,683	$ 439,528	$ 285,845

Panel C: Real LTSS Costs w/o Additional LTSS Inflation

Category	Unconditional Mean	Unconditional Median	Conditional Mean	Conditional Median
Couple	$ 183,363	$ 84,306	$ 290,829	$ 208,050
Single Male	$ 79,843	$0	$ 209,261	$ 142,560
Single Female	$ 132,370	$0	$ 282,623	$ 208,050
Overall	$ 150,451	$ 44,817	$ 278,805	$ 200,092

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65.[14]

While the costs in Exhibit 6 may seem high, note they are generally comparable with Favreault and Johnson (2021), who found that the average present discounted value of LTSS expenditures for men and women turning 65 between 2020 and 2024 was $61,900 and $97,300, respectively. When conditioning on those with LTSS use, they found that the cost jumped to $142,000 for men and $175,500 for women.

14 While the conditional mean and median results for couples and single females are similar, note that the percentage of trials with only a simulated need for home-health care is higher for couples than single females, which helps explain why the conditional present value of costs are similar. Moreover, the percentage of simulations wherein both members of a couple require NH is rare.

We also calculated the PV of LTSS costs (our first metric) by longevity quartile. Exhibit 7 includes the unconditional and conditional costs at the mean, median, 25th, 75th, 90th, and 95th percentiles for all households in aggregate. We note that the unconditional LTSS costs for the first longevity quartile at the 90th percentile are $236,715 while the costs at the 95th percentile are $359,297. These results further underscore the importance of planning for LTSS, as even those in the first longevity quartile may require multiple years of paid LTSS.

Exhibit 7: Projected LTSS Costs From Retirement Age Through Death for Baby Boomers by Longevity Quartile

Panel A: Unconditional PV of LTSS Costs

Longevity Quartile	Mean	p25	p50	p75	p90	p95
1	$ 75,164	$0	$0	$ 89,656	$ 236,715	$ 359,297
2	$ 121,072	$0	$ 45,310	$ 170,594	$ 349,801	$ 490,760
3	$ 151,407	$0	$ 66,102	$ 220,227	$ 422,697	$ 571,504
4	$ 208,486	$0	$ 114,923	$ 309,732	$ 558,576	$ 741,486

Panel B: Conditional PV of LTSS Costs

Longevity Quartile	Mean	p25	p50	p75	p90	p95
1	$ 183,492	$ 66,613	$ 122,363	$ 242,434	$ 403,117	$ 528,717
2	$ 216,999	$ 84,335	$ 157,708	$ 286,774	$ 473,525	$ 616,184
3	$ 241,857	$ 88,306	$ 172,738	$ 327,384	$ 526,245	$ 680,721
4	$ 297,406	$ 99,323	$ 219,652	$ 406,678	$ 653,471	$ 834,384

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65.

Overall, these results highlight the financial burden of LTSS. Retirement planning should account for longevity risk and LTSS risk, and households should not think of these risks as separate, as they are interconnected.

As a reminder, we do not vary LTSS costs by payer in this analysis. If we did, the projected costs would be lower, as Medicaid reimburses providers at lower rates than households paying out of pocket, and households without any remaining income or assets would have the costs subsidized by taxpayers. While adjusting by payer would reduce the direct burden on households, the overall costs remain substantial—whether borne by households or ultimately shifted to taxpayers.

Conclusion

This study examined the impact of LTSS on retirement outcomes for a nationally representative sample of the US population, using the Morningstar Model of US Retirement Outcomes. We found that retirement-income adequacy is dramatically affected by the need for LTSS. In particular, the percentage of households simulated to run short of money when LTSS costs are excluded dropped by double digits in nearly all scenarios examined. Our analysis demonstrated that longevity risk and LTSS risk are closely linked, as those who live longer are more likely to need LTSS. Households should consider these risks together rather than thinking about each risk in isolation. Additionally, we calculated the present value of LTSS costs, which revealed a highly skewed distribution. While many households will not incur any LTSS costs, those that do may face substantial expenses, potentially in the hundreds of thousands of dollars.

In future research, we will explore the potential role of private long-term-care insurance in mitigating LTSS risk. We will also analyze the impact of public policy initiatives, including the Well-Being Insurance for Seniors to be at Home (WISH) Act,[15] which Congressman Tom Suozzi recently reintroduced.

15 Refer to https://suozzi.house.gov/media/press-releases/suozzi-introduces-one-kind-bipartisan-bill-address-senior-long-term-care

Appendix

Exhibit A.1: Percentage of Americans Ages 20+ With Retirement-Funding Ratio Less Than Displayed Value by Family Status

Panel A: With LTSS Costs

Funded Ratio	Couple	Single Male	Single Female	Aggregate
0.8	19%	22%	36%	25%
0.9	28%	28%	43%	32%
1	37%	36%	52%	41%
1.1	54%	51%	64%	56%
1.2	67%	61%	73%	67%

Panel B: Without LTSS Costs

Funded Ratio	Couple	Single Male	Single Female	Aggregate
0.8	8%	11%	19%	12%
0.9	14%	16%	25%	17%
1	22%	23%	34%	26%
1.1	39%	39%	50%	43%
1.2	55%	51%	62%	56%

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

Exhibit A.2: Percentage of Americans Ages 20+ With Retirement-Funding Ratio Less Than Displayed Value by Age Cohort

Panel A: With LTSS Costs

Funded Ratio	Gen Z	Millennials	Gen X	Baby Boomers
0.8	29%	27%	24%	27%
0.9	34%	34%	33%	36%
1	41%	42%	43%	46%
1.1	55%	58%	59%	61%
1.2	63%	67%	71%	72%

Panel B: Without LTSS Costs

Funded Ratio	Gen Z	Millennials	Gen X	Baby Boomers
0.8	11%	11%	11%	16%
0.9	15%	16%	18%	24%
1	21%	24%	29%	34%
1.1	38%	43%	46%	50%
1.2	49%	55%	61%	64%

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

Exhibit A.3: Percentage of Americans Ages 20+ With Retirement-Funding Ratio Less Than Displayed Value by Income Quartile

Panel A: With LTSS Costs

Funded Ratio	1st	2nd	3rd	4th
0.8	57%	27%	16%	5%
0.9	68%	37%	24%	9%
1	78%	49%	34%	14%
1.1	87%	67%	54%	28%
1.2	92%	77%	67%	42%

Panel B: Without LTSS Costs

Funded Ratio	1st	2nd	3rd	4th
0.8	36%	10%	5%	1%
0.9	49%	16%	9%	3%
1	65%	30%	15%	6%
1.1	81%	53%	35%	15%
1.2	88%	68%	54%	28%

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age. Income quartiles are based on our AIME calculations.

Exhibit A.4: Percentage of Americans Ages 20+ With Retirement-Funding Ratio Less Than Displayed Value by Race and Ethnicity

Panel A: With LTSS Costs

Funded Ratio	Hispanic	Non-Hispanic Black	Non-Hispanic Other	Non-Hispanic White
0.8	37%	37%	21%	21%
0.9	47%	46%	28%	28%
1	57%	56%	36%	36%
1.1	73%	71%	50%	52%
1.2	82%	80%	60%	64%

Panel B: Without LTSS Costs

Funded Ratio	Hispanic	Non-Hispanic Black	Non-Hispanic Other	Non-Hispanic White
0.8	21%	19%	10%	9%
0.9	30%	27%	16%	14%
1	42%	38%	23%	21%
1.1	62%	57%	38%	37%
1.2	75%	70%	50%	52%

Source: Authors' calculations using v1.1 of the Morningstar Model of US Retirement Outcomes under the assumption that household members retire at age 65. Household members are assumed to claim Social Security at retirement age.

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