

Planning for health care costs in retirement

Vanguard Research

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Vanguard engaged Mercer Health & Benefits to develop a model to forecast health care costs for U.S. retirees. Vanguard believes retirement planning frameworks should be adapted as follows:

- Planning for annual health care insurance premiums and out-of-pocket expenses at retirement should be distinct from planning for long-term care expenses.
- Some research estimates health care costs in retirement as a lifetime lump sum. We believe a better planning framework considers these costs as annual expenses personalized to an individual's health status, coverage choices, retirement age, and loss of any employer subsidies. For a typical 65-year-old woman, the Mercer-Vanguard model predicted an annual health care expense of \$5,100 for 2020.
- During their working years, some people should save at higher rates to account for potential future incremental health care spending. This group includes those with generous employer benefits that may not be offered in retirement and those with higher risk of chronic conditions because of family history or current health status.
- Long-term care costs represent a separate and difficult planning challenge because of the wide distribution of potential outcomes. Half of the population will never incur them—but everyone faces a small but meaningful risk of requiring costly care for multiple years.

Health care costs in retirement

Academics and industry experts have placed a spotlight on health care costs that U.S. households can expect to incur during retirement. Most Americans realize that annual health care costs have been growing faster than inflation for some time; workers see this as they experience rising premiums and out-of-pocket costs in their employer benefits. They also know they will likely consume more services each year as they age. Pre-retirees and retirees are concerned about how these costs will affect their retirement and how they will pay for them. Thirty percent of workers surveyed are not confident they will have enough money for health care during retirement; this percentage was higher than the number who fear they will run out of money for any other reason.¹

As presented by leading experts, the numbers are alarming. Since at least 2003, the Employee Benefit Research Institute (EBRI) has been quantifying the amount individuals will need to have saved to cover total health care premiums and out-of-pocket health care costs throughout retirement.² The EBRI analysis has evolved over the years and now focuses on the figure needed for a 65-year-old couple desiring a 90 percent chance of having enough savings: a daunting \$270,000.³

The EBRI estimate does not factor in any long-term care expenses. About half of the population will need paid long-term care⁴ such as adult day care, homemaker services, home health aides, assisted living facilities, and nursing-home care. The costs are justifiably a primary worry for many U.S. retirees: The national average for private-room nursing-home care is in excess of \$8,800 per month.⁵

To better understand the financial planning implications of annual health care costs and long-term care expenses, Vanguard has partnered with Mercer Health & Benefits to develop a proprietary model to forecast the range of costs for both pre-retirees and retirees.⁶ For a typical 65-year-old woman, the model predicted an annual health care expense of \$5,100 in 2020 if she purchased a Medicare Supplement Plan G and a standard prescription drug plan. Based on our analysis, Vanguard proposes several important changes to the way that health care costs are typically discussed and modeled:

¹ See Employment Benefit Research Institute, 2020. Responses were based on the views of 1,018 workers in the U.S., and data were weighted by age, gender, education, household income, and race.

² See Fronstin and Salisbury, 2003.

³ See Fronstin and VanDerhei, 2020.

⁴ See Favreault and Dey, 2021, Table 2. The results are derived from analyses using the Urban Institute's DYNASIM3, a dynamic microsimulation model designed to analyze retirement and aging issues over time.

⁵ See Genworth Financial, 2020.

⁶ The Mercer-Vanguard health care cost model is also based on requirements arising under the Affordable Care Act as of the date of this paper. These requirements could change or be clarified in a manner that may materially affect the analysis and resulting determinations. For a description of the model, see the Appendix. Mercer's participation should not be inferred to indicate that the company believes that other points of view on this topic are invalid.

- 1. Cost factors.** Determining how an individual's annual health care costs will change at retirement requires understanding the impact of key personal attributes including health status, coverage choices, geography, income, and loss of employer subsidies. Routine costs include insurance premiums and out-of-pocket costs but not expenses associated with paid long-term care.
- 2. Replacement ratios.** Replacement ratios—the percentage of pre-tax income at retirement that people will need to maintain their current lifestyle—are commonly used to provide estimates of retirement spending needs, which are in turn used to estimate required saving rates. For some, accounting for changes in health care costs will result in higher replacement ratios than many traditional defaults, especially if their employer offers generous benefits.
- 3. Annual cost framing.** The expression of annual health care costs as a lump sum is not a useful framework for discussing retiree expenses. Instead, people should focus on annual costs, especially the incremental annual changes that will be experienced at retirement and at Medicare enrollment.
- 4. Substitution effects.** Health care costs are likely to increase during retirement because of both increased consumption and faster-than-inflation growth. Planning frameworks need to balance this growth against the substitution effects that occur when retirees spend less in other categories as they age.
- 5. Long-term care.** Long-term care costs represent a separate planning challenge. They should be explicitly addressed as part of the retirement planning process. Individuals should be aware of the low but real probability that they will experience a high-cost long-term care event.

We will begin by discussing the personal factors that influence annual health care costs. We will then show how these factors may require some people to plan for higher replacement ratios. Next, we will cover how framing annual health care costs as an incremental change at retirement and at Medicare eligibility is a more practical approach than focusing on daunting lump-sum estimates. Then we will address how retiree spending substitution effects counteract health care cost growth after retirement. Finally, we will discuss planning for potential long-term care expenses.

Health care cost factors

Retiree health care costs vary from person to person. Financial plans should factor in the personal characteristics of each investor. Factors that can significantly affect costs include:

- Health status and risk.
- Medicare coverage choice.
- Retirement age.
- Employer subsidies.
- Geography.
- Medicare surcharges.

Health status and risk

One of the largest factors in understanding potential costs is the volume of health care services a given person will likely require. People with chronic medical conditions consume the majority of medical care.⁷ In the Mercer-Vanguard model, 12 conditions were chosen based on a mix of prevalence and cost from data provided by the Centers for Medicare & Medicaid Services (CMS) to establish a retiree's likely health status. Our model considers both individual and parental medical history in establishing the retiree's likely health status. The conditions used are:

- Hypertension.
- Hyperlipidemia (high cholesterol).
- Rheumatoid arthritis, osteoarthritis.
- Heart disease (ischemic heart disease, heart failure, acute myocardial infarction).
- Diabetes.
- Chronic kidney disease.
- Depression.
- Alzheimer's disease, senile dementia, and related disorders.
- Chronic obstructive pulmonary disease.
- Cancer (colorectal, breast, prostate, lung).
- Asthma.
- Osteoporosis.

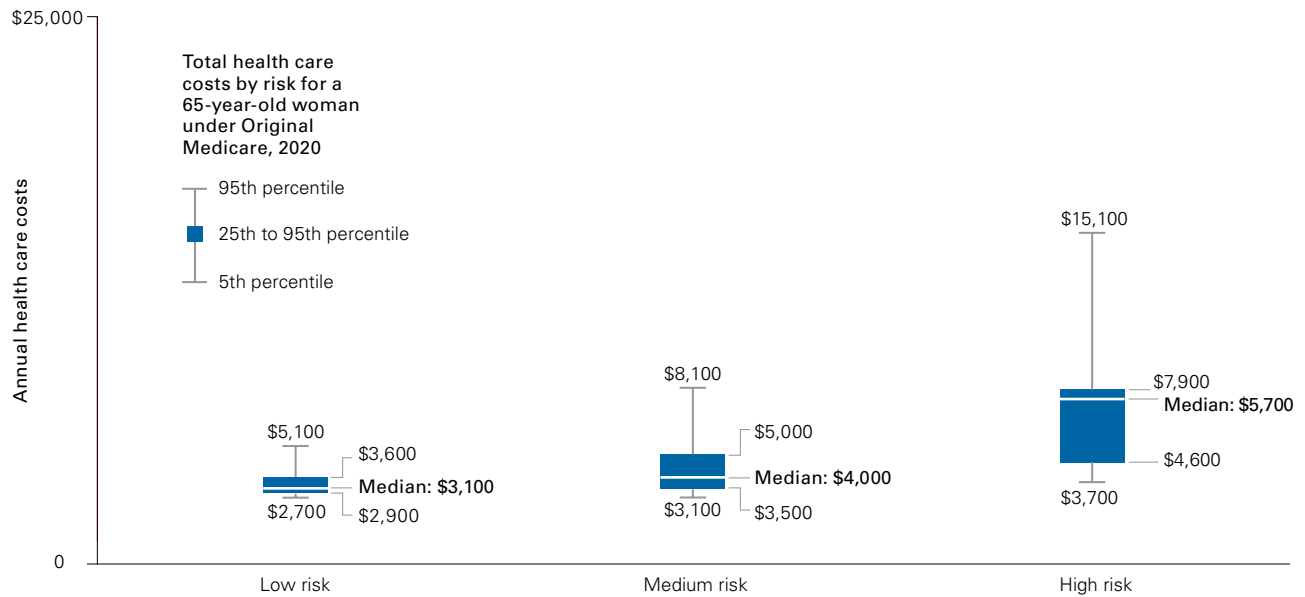
Certain health conditions have more impact on future health care costs, and most chronic conditions will have manifested symptoms by a person's 50s or 60s. Smoker status and number of doctor visits were additional factors chosen to classify risk.

Our model divides people into three risk categories: high, medium, and low. High-risk individuals are assumed to incur health care costs associated with those in the top quartile. In our model, they typically are smokers, visit the doctor frequently, or have two or more of the chronic conditions listed above. Low-risk people are generally free of chronic conditions and incur costs associated with those in the bottom quartile. Medium-risk retirees incur costs associated with the middle two quartiles.

People using only Original Medicare with Part D incur the widest range of potential annual health care costs per year. This is why nine in ten choose some form of additional coverage. Throughout this paper, unless otherwise noted, we choose to model a woman because women have slightly higher lifetime costs on average. However, the gender difference in our model is less than 2 percent.

Our model suggests that a medium-risk 65-year-old woman living in a median-cost area and using only Original Medicare with Part D could have expected to pay between about \$3,100 and \$8,100 for premiums and out-of-pocket medical, dental, and vision costs in 2020 (see **Figure 1**). At the median, she could have expected to pay about \$4,000. However, a woman in the same circumstances but with a low risk profile could have expected median annual costs about one-quarter lower than our medium-risk baseline, with little variation from year to year if low risk is maintained. On the other hand, a high-risk individual would expect costs to be more than 40% higher, with the possibility that in some years she would exceed 2.5 times the medium-risk baseline.

Figure 1. Annual health care costs vary widely by individual health risk category



Source: Mercer-Vanguard health care cost model, 2020.

Medicare coverage choice

Coverage decisions made by Medicare-eligible retirees also affect annual health care costs. A retiree faces many options, including these common choices:⁸

- Original Medicare with prescription drug coverage only (Parts A, B, and D), used by 9% of Medicare enrollees.
- Original Medicare with prescription drug coverage and a supplemental Medigap plan, used by 26% of Medicare enrollees.⁹
- Medicare Advantage Plan with prescription drug coverage (Parts C and D), used by 37% of Medicare enrollees.
- Original Medicare with employer-sponsored coverage, used by 28% of Medicare enrollees.

These coverages differ in cost and comprehensiveness, and retirees need to make trade-off decisions when selecting a plan.¹⁰ Total costs under different Medicare coverages may vary based on health status (see Figure 2). Some people may consider paying higher premiums to reduce the risk of extreme or less predictable out-of-pocket costs. Others, especially those who expect to remain healthy, may experience lower costs in most years by opting for a less-extensive supplemental policy or none at all. The trade-off is that they may experience years with much higher costs. Waiting until supplemental coverage is needed may not be advisable, as many carriers will not provide that option after an individual becomes sick—outside of the initial Medicare enrollment period—or will charge higher rates.

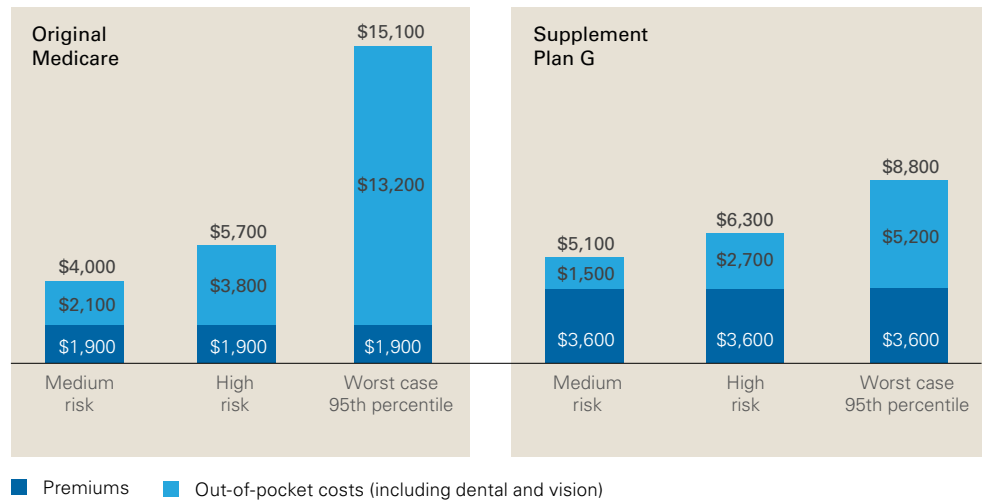
⁸ See Centers for Medicare & Medicaid Services, 2018.

⁹ Plan F is the most comprehensive supplemental plan and generally covers both deductibles and coinsurance payments for Parts A and B; Part D prescription drug coverage is purchased separately. Plan F is no longer offered to new enrollees. Plan G is the most comprehensive supplemental plan for new enrollees, with a modest deductible before covering both deductibles and coinsurance payments for Parts A and B; Part D prescription drug coverage is purchased separately.

¹⁰ See Weber, 2019.

Figure 2. Annual health care costs vary widely by individual health risk category

Premium and out-of-pocket medical costs by Medicare coverage options for a 65-year-old woman, 2020



Source: Mercer-Vanguard health care cost model, 2020.

A cost-effective choice used by slightly more than one-third of Medicare recipients is a Medicare Advantage Plan. These private plans are approved by the government and can vary greatly in their coverage details, provider networks, and costs. They must cover everything that Original Medicare does and may also provide additional coverage, including dental and vision. Those who purchase a Medicare Advantage Plan cannot buy a supplemental plan, but Medicare Advantage Plans can have a yearly limit on out-of-pocket costs that varies by plan. Some may have an additional premium above the Part B premium, but many do not. Medicare Advantage Plans typically produce lower out-of-pocket costs for enrollees, but in certain instances they may be more costly. The choice of health care provider may be restricted to a particular network, and Medicare Advantage insurers may choose not to pay for service they deem “not medically necessary.”

Retirement age

The absence or presence of subsidized coverage for retirees under age 65 can significantly affect planning. They need to have a strategy to bridge their health care coverage between retirement and Medicare.

Those without access to employer retiree health care benefits will probably use private insurance. Most people now get this type of coverage through public marketplace exchanges, typically purchasing either a Bronze (33% of enrollees) or Silver (57%) plan.¹¹ The premium cost of a typical Bronze or Silver plan at age 64 is more than four times the cost of most Medicare coverage at age 65 that is not subsidized by an employer (see Figure 3). An income-based cost-sharing subsidy may be available.¹²

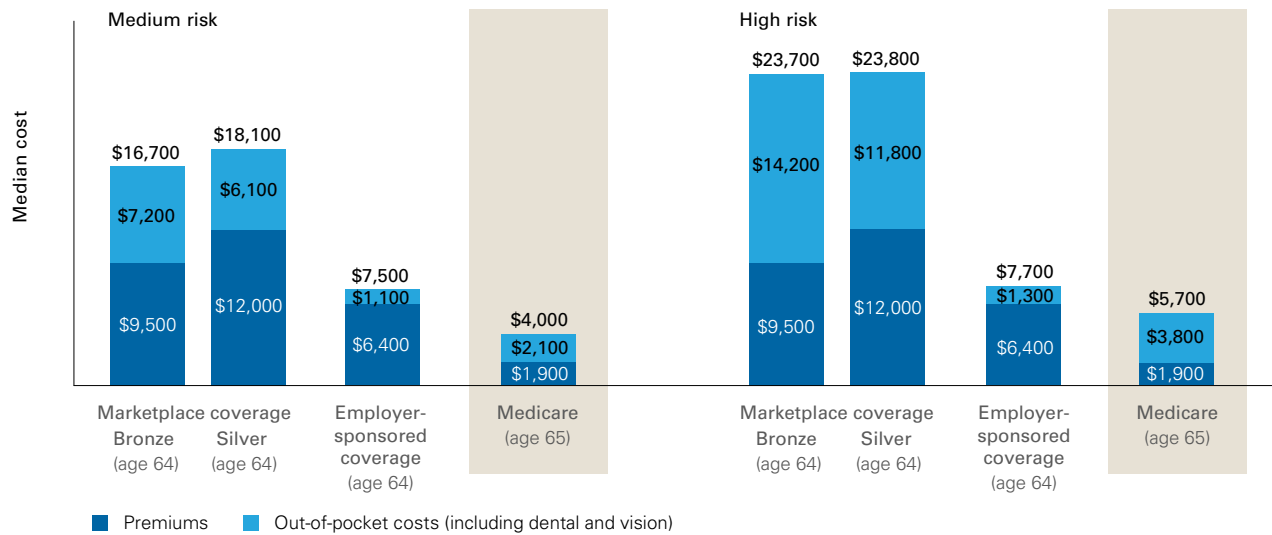
Those working for large employers, in particular, may have access to employer-sponsored, perhaps even employer-subsidized, retiree health benefits. About one in five large employers offers such a plan on an ongoing basis, covering nearly two-thirds of the cost of pre-Medicare retiree insurance at the median.¹³ An additional 17% offer this coverage to a closed group of current or future retirees. This reflects the ongoing trend of fewer employers offering subsidized retiree health benefits. Our model projected that a 64-year-old retiree could have paid premiums of about \$6,400 per year for employee-sponsored coverage in 2020.

11 See Centers for Medicare & Medicaid Services, 2021.

12 Health insurance subsidies vary based on income and family size. Depending on income as expressed in ranges from 100% to 400% of the poverty threshold, the subsidies limit the cost of insurance to between 2% and 10% of income for the second-lowest-cost Silver plan. For an overview of health insurance subsidies, see Kaiser Family Foundation, 2020.

13 Mercer National Survey of Employer Sponsored Health Plans.

Figure 3. Presence or lack of subsidized coverage for pre-Medicare retirees can significantly affect costs



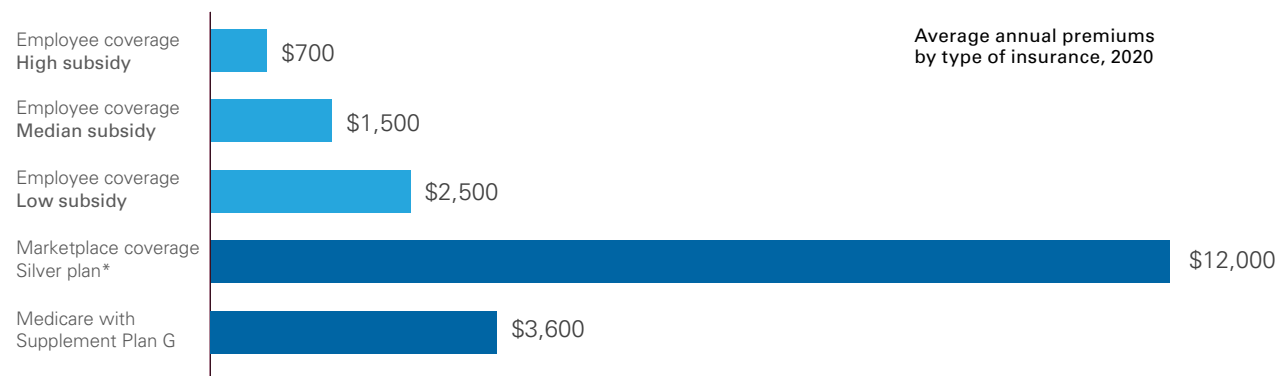
Source: Mercer-Vanguard health care cost model, 2020.

Incremental change and the loss of employer subsidies in retirement

Before retirement, an employer often subsidizes a substantial portion of employee and dependent health care costs. On average, employers that provide health care benefits spend about \$6,000 per year per worker to cover the employee only. When these subsidies disappear at retirement, the retiree could incur additional costs.

Our 65-year-old woman, on average, would have paid \$1,500 annually in health care costs while working (see Figure 4). The premiums for Medicare with Supplement Plan G at age 65 could be expected to be \$3,600, more than double the employer-sponsored cost. The increment for employees with more generous coverage could be even more, and considerably higher if pre-Medicare private coverage is needed.

Figure 4. With the loss of employer subsidies, retirees need to cover additional insurance expenses



* Health insurance subsidies vary based on income and family size.

Sources: Mercer National Survey of Employer-Sponsored Health Plans and Mercer-Vanguard health care cost model, 2020.

Geography

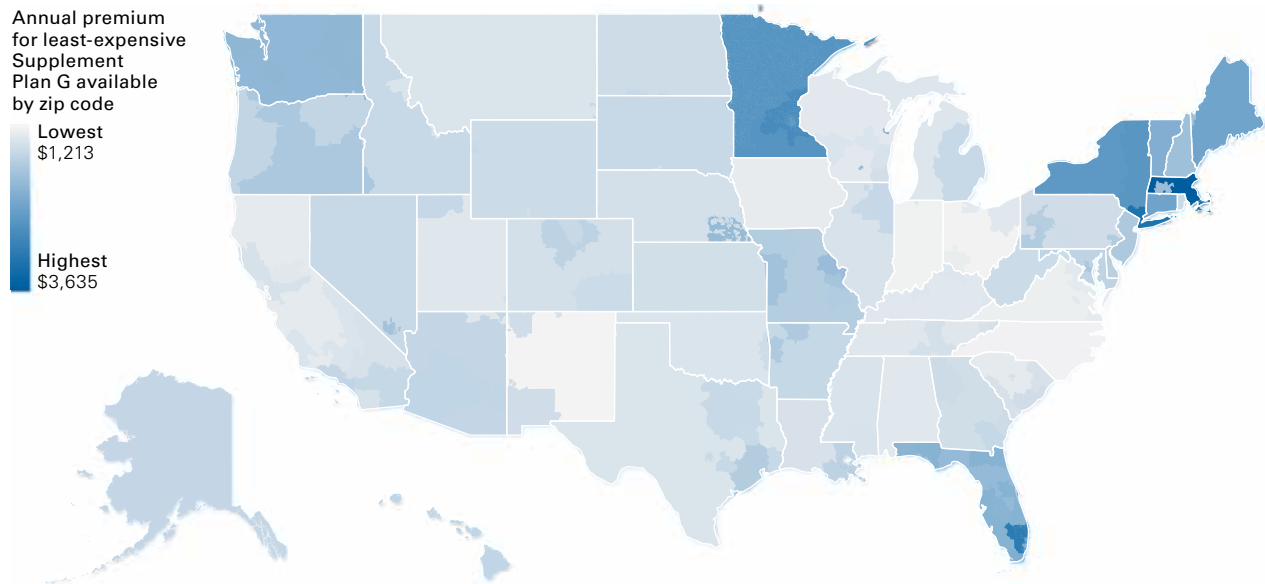
Where a retiree chooses to live also affects projected health care costs. Geography does not affect Medicare Part B premiums but may affect Supplement Part D premiums. It also affects the cost of private insurance, such as marketplace public exchange plans, Medicare Advantage premiums, and supplemental Medicare policy premiums. Some of these differences are due to variation in cost of living or cost of medical services and level of federal funding. Some are due to differences in the insurance providers that serve each state.

If an individual chooses Plan G, the largest variance in costs arises from premiums, and the variance in out-of-pocket costs is minimal. In 2020, annual Plan G premiums ranged from \$1,213 up to \$3,635, about triple the lowest cost (see Figure 5). The median was just over \$1,520.

Medicare surcharges

Another factor affecting Medicare Part B and Part D premiums is income. Medicare premiums are subsidized by the government. As retirees reach higher levels of income, those subsidies are reduced in the form of higher Medicare Part B and Part D premiums. Figure 6 shows these surcharges for 2020.

Figure 5. Projected premium costs differ by where a retiree lives



Source: Mercer-Vanguard health care cost model, 2020.

Figure 6. Medicare Part B and Part D premium surcharges for 2020

2018 modified adjusted gross income*			2020 annual premium per person	
Individual tax return	Joint tax return	Married filing separately tax return	Part B	Part D
\$87,000 or less	\$174,000 or less	\$87,000 or less	\$1,735	Plan premium
Above \$87,000 up to \$109,000	Above \$174,000 up to \$218,000	N/A	\$2,429	Plan premium + \$146
Above \$109,000 up to \$136,000	Above \$218,000 up to \$272,000	N/A	\$3,470	Plan premium + \$378
Above \$136,000 up to \$163,000	Above \$272,000 up to \$326,000	N/A	\$4,512	Plan premium + \$608
Above \$163,000 and less than \$500,000	Above \$326,000 and less than \$750,000	Above \$87,000 up to \$413,000	\$5,552	Plan premium + \$840
\$500,000 and above	\$750,000 and above	\$413,000 and above	\$5,899	Plan premium + \$917

*Modified adjusted gross income is adjusted gross income plus any nontaxable Social Security benefits, tax-free-interest income, and excluded foreign income. Source: Medicare.gov.

Other factors affecting costs

Although the underlying data available for our model did not allow us to adjust for the following factors, studies have indicated that they affect a retiree’s routine health care costs:

- Marital status. Being married has been shown to be correlated with health as well as greater longevity.¹⁴ In addition, joint coverage options may be available.
- Age at retirement. Evidence is emerging that people who work past age 65 have better longevity and health. Workers have greater longevity as a group than retirees of the same age.¹⁵ Poor health may be a factor in why some choose to retire earlier.

Personalizing cost estimates

Planning for routine health care costs in retirement should be an element of a comprehensive retirement planning strategy. Many factors affect them, and the exact nature of the annual changes becomes clearer as retirement approaches. High-risk health status has the potential to greatly increase costs. Choosing Original Medicare with no supplemental coverage may lower them at the median but will increase potential variability. Medicare surcharges can dramatically increase the cost of premiums for high-income retirees. Cost-of-living differences because of geography usually have less impact. Individuals should consider how all of their personal attributes will affect their costs.

Although the median annual health care cost was estimated as \$5,100 for 2020, the estimated range for our 65-year-old woman varied from \$2,700 to \$20,100 (see Figure 7).

¹⁴ See Hui and Umberson, 2008.

¹⁵ Based on a comparison of the Society of Actuaries RP-2014 employee mortality tables to the similar Healthy Annuitant mortality tables for ages 65 to 80.

Figure 7. The range of annual health care costs for a 65-year-old woman, 2020

	Income below \$87,000						Income above \$163,000 and below \$500,000					
Health risk	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Geography, cost of living	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Supplemental coverage	None	None	None	Plan G	Plan G	Plan G	Plan G	Plan G	Plan G	None	None	None
Median	\$3,100	\$4,000	\$5,700	\$4,400	\$5,100	\$6,100	\$9,000	\$9,800	\$10,800	\$7,800	\$8,700	\$10,400
5th percentile	\$2,700	\$3,100	\$3,700	\$4,200	\$4,800	\$5,100	\$8,900	\$9,400	\$9,800	\$7,400	\$7,800	\$8,400
25th percentile	\$2,900	\$3,500	\$4,600	\$4,300	\$4,900	\$5,600	\$9,000	\$9,600	\$10,300	\$7,500	\$8,200	\$9,200
75th percentile	\$3,600	\$5,000	\$7,900	\$4,500	\$5,400	\$6,900	\$9,200	\$10,000	\$11,600	\$8,300	\$9,600	\$12,600
95th percentile	\$5,100	\$8,100	\$15,400	\$4,800	\$5,800	\$8,700	\$9,400	\$10,500	\$13,300	\$9,700	\$12,800	\$20,100
5th-95th percentile range	\$2,400	\$5,000	\$11,700	\$600	\$1,000	\$3,600	\$500	\$1,100	\$3,500	\$2,300	\$5,000	\$11,700

Annual health care costs for a 65-year-old woman, 2020

Lower ← → Higher

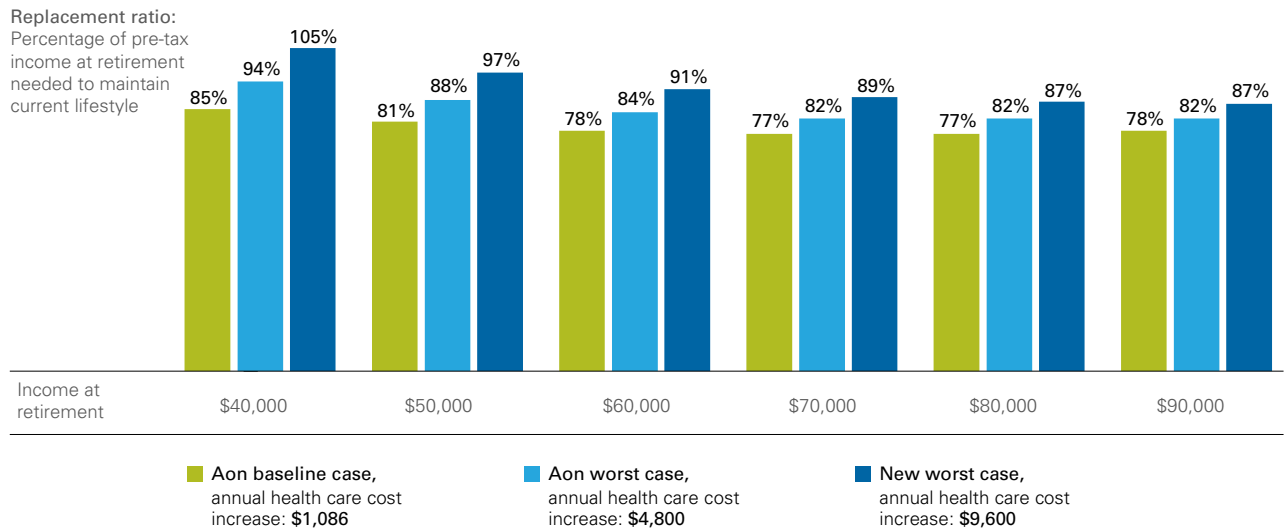
Source: Mercer-Vanguard health care cost model, 2020.

Implications for replacement ratios

Savers, especially those who are many years away from retirement, often have a difficult time envisioning what their spending needs will be. However, projected spending is a critical input for determining the savings rate needed to maintain a comparable standard of living. Financial planners, understanding this difficulty, often instead use a replacement ratio, which is a percentage of pre-tax income at retirement that someone will need to maintain their desired lifestyle. Typical replacement ratios are 70% to 85%.¹⁶

However, the wide variation in incremental health care costs encountered at retirement suggests that blindly accepting these default ranges may not be a good idea for some. The change can be small for those with employer benefits that completely cover costs both pre- and post-retirement or who are in particularly good health. At the other extreme, some will have high medical costs or lose generous subsidies and may incur costs in the thousands of dollars. Where the incremental increase is high, retirement savers may need to increase replacement ratios and therefore their savings rate.

Figure 8. Higher projected incremental health care costs have implications for retirement savings targets



Sources: Aon Consulting’s 2008 Replacement Ratio Study and Vanguard.

Aon Consulting’s often-cited 2008 Replacement Ratio Study suggests a replacement ratio of 75% to 85% (see Figure 8). In the baseline case, an employee making \$60,000 per year was assumed to have an annual health care cost increase of \$1,086. The worst case model assumed an additional cost of \$4,800 per year at retirement. Thirteen years after the study, however, it is not hard to envision scenarios in which the worst-case increase could be double that assumption, or \$9,600 per year. Replacement ratios could rise to 90% or higher.

This implies that employers with generous health care subsidies that provide retirement savings plans with automatic enrollment should target higher replacement ratios for their employees, leading to higher default saving rates. But if there are also generous retiree health care benefits, such an increase might not be necessary.

Framing costs in annual terms

What exactly does it mean that a female retiree might spend \$146,000 or more on health care?¹⁷ That figure certainly sounds high, perhaps overwhelming. But is it? When any annual recurring expense is framed as a lump sum rather than an annual flow, it can seem overwhelming.

Consider that, according to the U.S. Bureau of Labor Statistics (BLS), the average one-person household aged 65 and above spends \$18,979 per year on food, clothing, and shelter combined.¹⁸ This seems reasonable. But what if we convert it into a lump-sum estimate? Assuming growth with inflation and a 23-year time horizon, that household will spend more than \$580,000 just to pay for food, clothing and shelter.¹⁹ The BLS reports that average total spending on all categories is \$34,624 per year. This means our individual would need more than \$1,000,000 to cover future living expenses. In that context, \$146,000 for health care seems small! Keep in mind that people have various income sources throughout retirement, including Social Security, so these expenses don’t always need to be fully funded by personal wealth.

¹⁷ See Fronstin and VanDerhei, 2020.

¹⁸ See U.S. Bureau of Labor Statistics, 2019.

¹⁹ This is the median life expectancy for a non-smoking 65-year old female in average health, according to the *Society of Actuaries and American Academy of Actuaries Longevity Illustrator*, accessed February 2021.

When converting a potential stream of payments into a lump sum, we must make assumptions about how long those payments will continue. In this case, the length of time is determined by life expectancy, estimates of which are inherently uncertain. For example, an average healthy 65-year-old woman has a life expectancy of 23 years—meaning there is a 50% chance she will live at least that long. Using estimates from our model, she could incur lifetime health care costs of about \$195,000 if she lives exactly 23 years more, to age 88. The chance is also 50%, however, that she could either die by age 81 or live to age 95 or older. If so, she would spend either less than \$117,000 or more than \$261,000 on those costs over her remaining lifetime. Because this range is wide and accounts for only 50% of possible outcomes, retirement planning professionals focus on annual spending plans.

The wide range in costs in this example results only from the number of years someone consumes health care—it does not account for differences in personal characteristics. Sometimes, projections complicate the issue by combining life expectancy assumptions with health status. This can lead to the conclusion that people with poor health will pay less because they will live fewer years. However, when examined through the framework of annual costs, it is clear theirs will be higher.

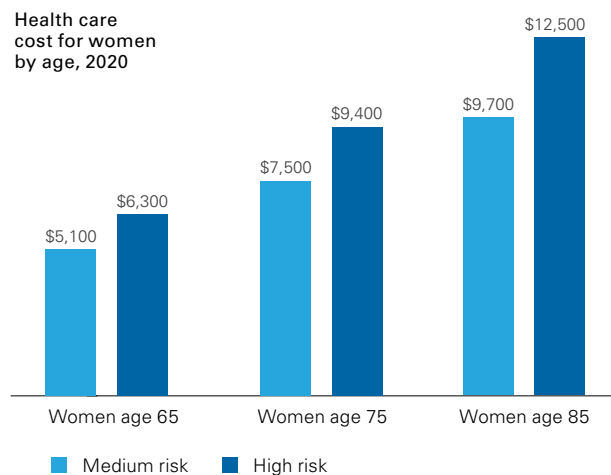
Vanguard believes a better approach is to separate health care expenses into two categories: annual and long-term. Routine medical expenses, premiums, and out-of-pocket costs should be treated the same as other basic living expenses—as an annual amount.²⁰ Although out-of-pocket costs vary from year to year, over time they may follow a fairly predictable pattern and fall within a reasonably predictable range once the individual factors discussed earlier are taken into account. However, for a small percentage of retirees, they can be very high.

It is important to note that when we talk about framing costs in annual terms, we are not talking about long-term care expenses. These are unpredictable, and many retirees will never incur them. Planning should recognize that they represent a contingency that may need to be paid for at any time. We address this in more detail later.

Health care cost growth

Recall that our model projected that a typical 65-year-old woman living in a median-cost area could have expected to pay about \$5,100 for premiums and out-of-pocket medical, dental, and vision costs in 2020 for Original Medicare with Supplement Plan G. But how could those costs change over time? By age 85, our retiree could expect her annual health care consumption to nearly double in real dollars (see Figure 9).

Figure 9. Retirees can expect to spend more on health care as they grow older



Source: Mercer-Vanguard health care cost model, 2020.

²⁰ See Jaconetti et al., 2021. Vanguard's framework separates retirement spending needs into four categories of increasing importance: 1. basic living expenses (needs), 2. contingency expenses (unpredictable, often expensive needs), 3. discretionary expenses (wants), and 4. bequests.

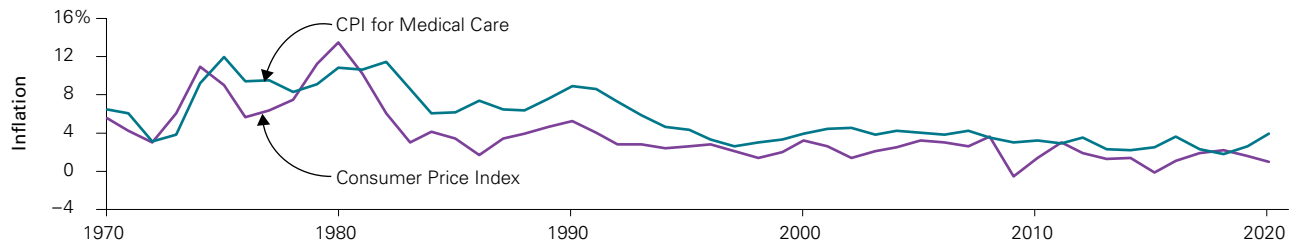
The growth of health care costs is so pronounced for two reasons. First, they have historically risen faster than inflation (see Figure 10). Although this has recently moderated somewhat, the trend is projected to continue for the foreseeable future. Second, people generally spend more on health care as they age. All other factors being equal, an 85-year-old will consume more services than a 65-year-old. However, annual costs tend to level off or even decline at the highest ages.

Health care costs have grown faster than inflation for reasons including a shift to costlier services and the emergence of new treatments and prescription drugs.

Figure 11 shows the projected rates of health care inflation used in our model. It assumes that eventually the trend will run closer to inflation in order to be economically sustainable and prevent national health expenditures from consuming an unreasonable portion of the U.S. economic output (as measured by gross domestic product).

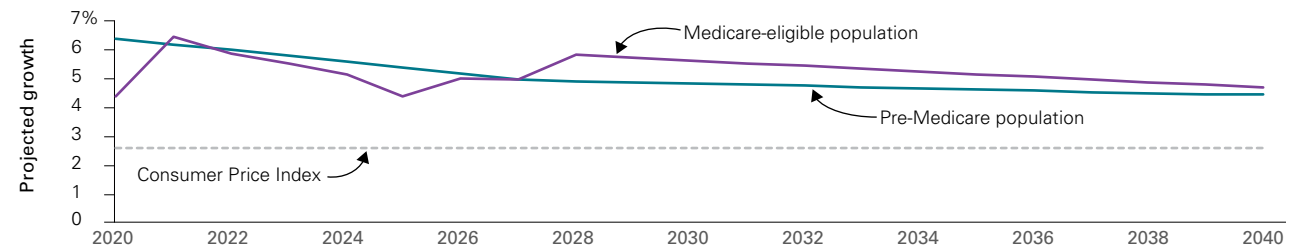
For pre-Medicare populations, our 2020 trend assumption of 6.4% was based on Mercer’s experience with similar populations for medical, prescription drug, and administrative costs and is graded down over time to 4.5%. Assumptions for Medicare-eligible populations were based on per capita cost trends for Parts A, B, and D established by the CMS in its 2019 Medicare Trustees Report blended with assumed administrative cost inflation of 4%. The 2020 blended Medicare retiree trend assumption of 4.4% rose to 6.5% for 2021 and eventually grades down to 3.7% in 2091. To convert projections into 2020 dollars, our model assumed a constant Consumer Price Index of 2.6%.

Figure 10. Health care costs have historically grown faster than inflation



Sources: U.S. Department of Labor and Bureau of Labor Statistics.

Figure 11. Mercer-Vanguard health care model growth assumptions



Note: Medicare-eligible growth assumptions are from the 2020 Medicare Trustees Report.

Source: Mercer-Vanguard health care cost model, 2020.

Substitution effects

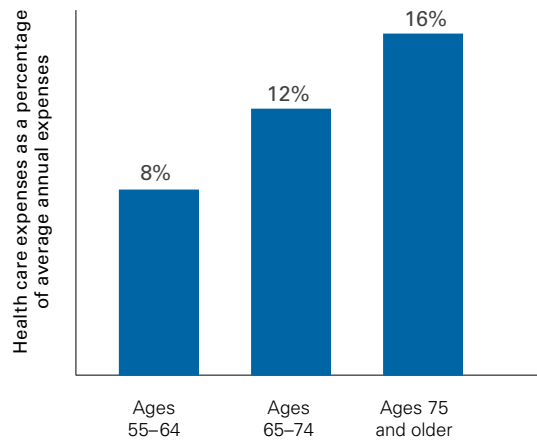
Given these trends, it is not surprising that much of the current discussion focuses on the risks associated with faster-than-inflation growth. However, it is important to consider these costs relative to other basic living expenses. Although they increase, spending in virtually all other categories tends to decline with age.

BLS data support this conclusion (Figure 12). As we age, increases in health care spending are countered by declines in categories such as transportation, housing, and entertainment. This could be motivated by various factors, including a diminishing interest in consumption, an increase in precautionary savings for long-term care, or more restricted financial circumstances. Even health care growth rates materially higher than inflation are unlikely to outweigh these relative declines.²¹

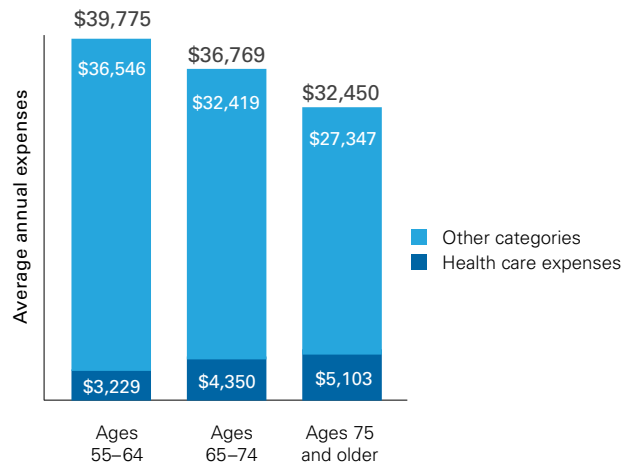
The trend of higher-than-inflation health care cost growth is not new. Retirees have been facing this reality for decades. The evidence, however, does not indicate that it has distorted overall spending. Research by the Society of Actuaries indicates that “retirees are resilient, and they are willing to make substantial adjustments in spending to manage” their finances.²² Retirement planning frameworks that assume that overall spending increases with inflation are already making a conservative assumption, providing an incremental hedge against the rising cost of health care.

Figure 12. Overall spending declines with age, even as the health care portion increases

Health care costs increase with age, taking up an increasing percentage of total expenses . . .



. . . but spending in other categories tends to decrease, leading to a decline in overall spending



Source: Bureau of Labor Statistics *Consumer Expenditure Survey 2018-2019* annual spending data for one-person households.

21 See Blanchett, 2014. David Blanchett also found declines in spending using data from the *RAND Health and Retirement Study*. Others who have documented declines include Hurd and Rohwedder, 2008, and Scholz et al., 2006.

22 See Rappoport, 2017.

How should people think about planning?

Planning considerations will vary depending on a person's life stage and health status. They should focus on a personalized annual process rather than a hypothetical lump sum.

- Understand costs. Individuals should be aware of how health status and other personal factors might affect their annual costs. Coverage choices should be informed by health status. Higher-income retirees will be subject to Medicare surcharges. Those retiring before age 65 need a strategy for bridging to Medicare.
- Understand employer subsidies. People should recognize the difference in the coverage cost that they pay now and what they will have to spend in retirement. Is their current health care heavily subsidized? Do they have employer-subsidized retiree health benefits? Instead of lifetime lump-sum projections, they should focus on the incremental change in their annual costs.
- Retirement savers could target higher replacement ratios. Some may encounter a large incremental change in health care costs when they retire. Those who have generous employer subsidies or are in poorer health may want to save at higher rates.

- Consider using Health Savings Accounts. Health Savings Accounts can be a means to save, in a highly tax-efficient manner, for unforeseen health care expenses in retirement.²³ They can be used as retirement savings and investing vehicles rather than as a "checking account." Eligible investors can save in these accounts today while paying current out-of-pocket costs from wages. This strategy can reduce the incremental change in overall costs that a retiree would otherwise experience. It also reduces the impact of future costs by holding earmarked tax-free savings.
- Retirees should consider Medicare enrollment options carefully and revisit them annually. Decisions involving the choice between Original Medicare coverage only, Original Medicare with a supplement, or Medicare Advantage depend on personal needs and circumstances. There is much more to consider than just the trade-off of premiums and out-of-pocket expenses.

Retirees should assess their situation each year and make adjustments accordingly. However, their opportunity to adjust may be limited. Although they can enroll in or change supplemental plans after the initial enrollment period, if their health has worsened, underwriting rules may prove difficult to overcome and can mean significant increases in premiums or even denial of coverage. Medicare Advantage and prescription drug plans can be reassessed yearly.

Long-term care costs

Long-term care costs present a far different type of retirement planning challenge than annual health care. They are unpredictable, sometimes large, sometimes zero, and rarely covered by insurance other than long-term care policies, which are increasingly difficult to obtain or afford.

The total amount paid for long-term care represents a combination of whether a person will need care and, if so, what type and for how long. About half of the elderly can expect no costs (see Figure 13).²⁴ About 20% can expect total costs (public and private) of less than \$100,000. However, 18% can expect total costs exceeding one-quarter of a million dollars. For those with expenditures, average total expected costs are about \$290,000. Those in the top income quintiles can expect to pay more out of pocket.²⁵

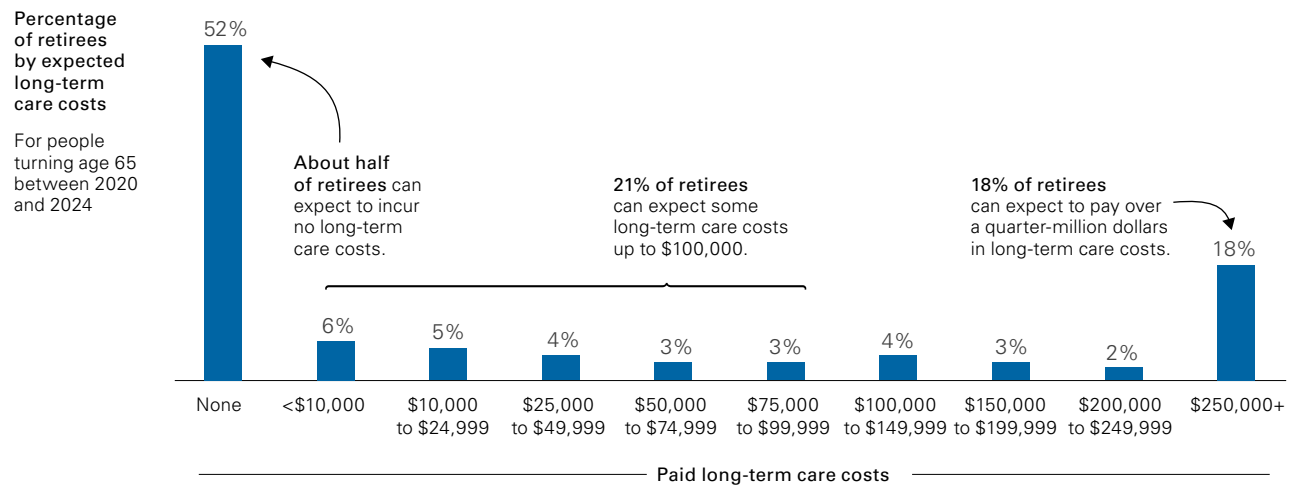
Long-term care services help individuals with activities of daily living (ADLs): bathing, dressing, toileting, transferring (getting out of a bed or chair), continence, and eating. The Health Insurance Portability and Accountability Act (HIPAA)

established that someone needing assistance with two or more of these activities for 90 days or more is consuming long-term care. HIPAA also established that the same is true for someone with severe cognitive impairment who requires substantial supervision for safety reasons.

Long-term care can be further categorized as temporary or ongoing. Temporary care is episodic and shorter in duration, lasting only weeks or months. Examples include rehabilitation after a hospital stay or recovery from an injury or surgery, after which the individual recovers and no longer requires services. Another example is hospice care arising from a terminal medical condition, which is temporary because end of life is imminent. Some temporary costs may be covered by Medicare.

In contrast, ongoing long-term care lasts many months or even years. Examples include assistance with ADLs associated with cognitive decline, permanent disability, and other chronic conditions. The most common situation is dementia. Stroke, Parkinson’s disease, and osteoarthritis are also common reasons.²⁶ Once begun, ongoing long-term care is generally needed for the rest of a person’s life.

Figure 13. Costs for paid long-term care vary considerably



Source: Assistant Secretary for Planning and Evaluation Issue Brief, *Long-Term Services and Supports for Older Americans: Risks and Financing 2020*, Table 5.

24 Jones et al., 2018, using data from the *RAND Health and Retirement Study*, find that 60% of women and 70% of men who are not in a nursing home at age 70 never have an extended stay.

25 See Favreault and Dey, 2021.

26 See Van Rensbergen and Nawrot, 2010.

Several types of formal long-term care services fall short of the extended nursing home stay that is often brought to mind. The cost varies by type of service. In 2020, the median annual cost ranged from about \$19,000 for adult day care to more than \$105,000 for a private nursing home room (see **Figure 14**). Homemaker services are considered “hands-off” care and consist of assistance with cooking, cleaning, and running errands. Home health aides provide hands-on personal care but not medical care.

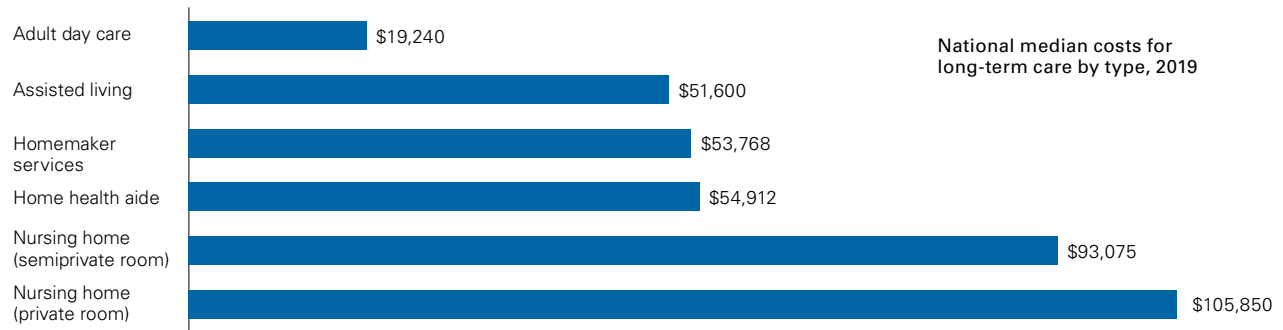
Adult day care centers are available in some communities; they provide social and support services in a protective setting and may also provide personal care, meals, and transportation. An assisted living facility is often an alternative to nursing home care. Many provide personal care and may offer health services. Nursing home care is the most intensive type of long-term care, with services provided around the clock including personal care, room and board, supervision, medication, therapy, and rehabilitation.

Costs also vary by region (see **Figure 15**). Even within a given region, they can vary greatly by provider. A private room in a high-end nursing home can cost 50% or more above the average for a particular location.

Not all long-term care is paid for. Family, friends, and neighbors frequently provide unpaid care. The National Care Planning Council estimates that informal caregivers represent approximately 20% of the population.²⁷ It describes the typical caregiver as a daughter, age 46, with a full-time job, who provides an average 18 hours per week of unpaid care. Of course, caregivers come in all shapes and sizes. Some are men. Some are younger and some are older.

About half of the population will face the prospect of needing some sort of paid long-term care. Although most of these needs will be relatively short, more than one in seven adults will require at least two years, and 7% will need five years or more (**Figure 16**). This possibility is what fuels the worries of retirement savers.

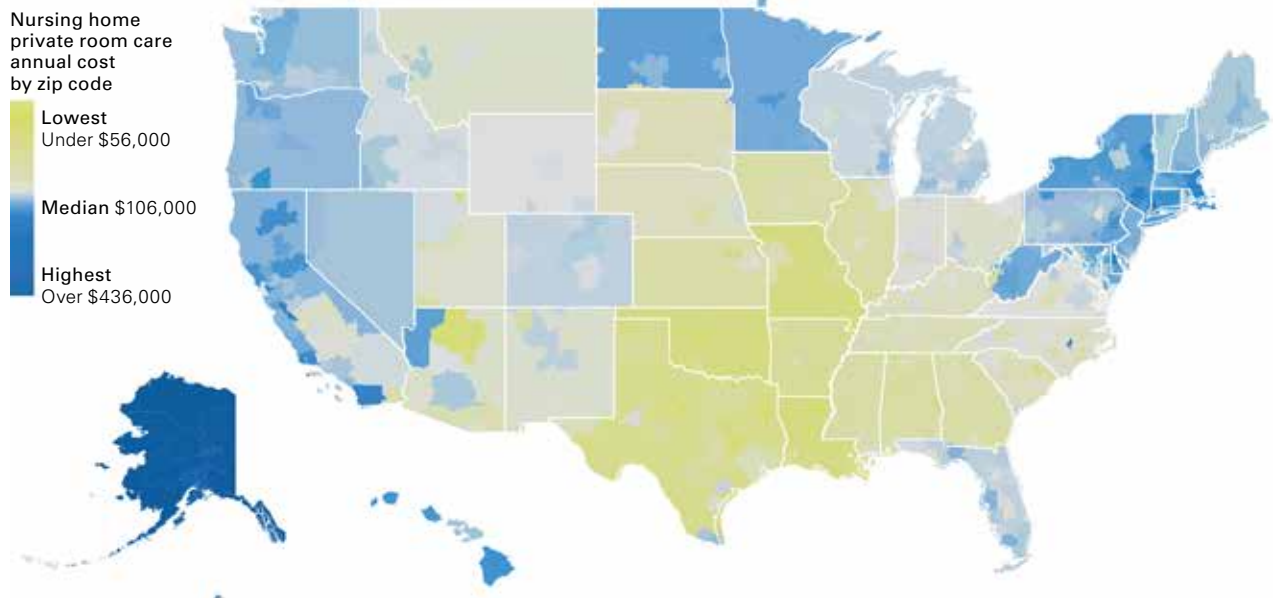
Figure 14. The cost of paid long-term care differs by the type of service used



Source: Genworth 2019 Cost of Care Survey, Genworth Financial, Inc.

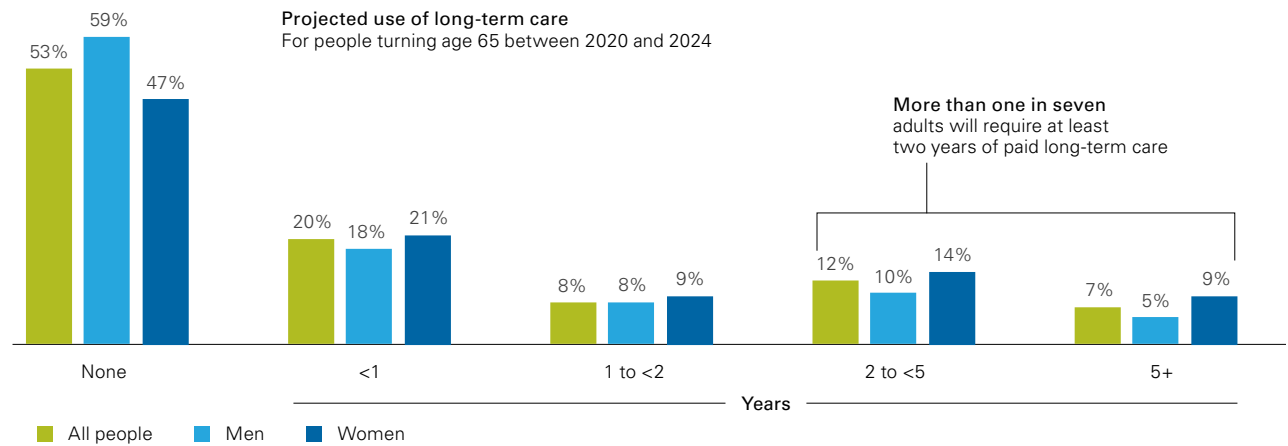
27 See National Care Planning Council, 2021.

Figure 15. Costs for nursing home care vary by location



Source: Mercer-Vanguard health care cost model, 2020.

Figure 16. About half of individuals will need some paid long-term care



Source: Assistant Secretary for Planning and Evaluation Issue Brief, *Long-Term Services and Supports for Older Americans: Risks and Financing 2020*, Table 2.

The incidence and duration of paid long-term care varies by gender. Nearly six in ten men can expect not to need it at all, while more than half of women can expect to use it. Women also are more than twice as likely to require care for five or more years. This is not because men are healthier. Elderly men are more likely to be married than women, largely because of gender differences in life expectancy. As a result, 66% of informal caregivers are women.²⁸ Thus, men are more likely to receive a greater portion of unpaid care.

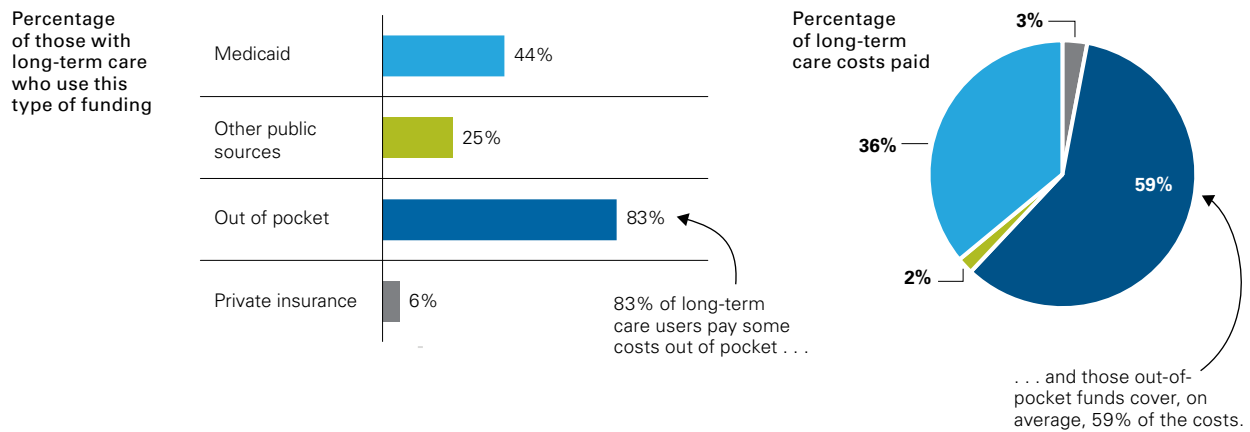
In some circumstances, Medicare will pay for long-term care services, but only for a short time and under specific conditions. For example, it will cover up to 100 days as

long as that period follows at least three days of being hospitalized and as long as skilled medical care is required. The vast majority of those who need long-term care will have at least a small portion paid by Medicare.

Most will need to find funding elsewhere. A last-resort payer is Medicaid, which pays about one-third of the cost, covering about four in ten people who use paid long-term care (see Figure 17). To qualify, the patient must, with some exceptions, deplete all other assets. For affluent retirees, any extended period of care will likely be paid out of pocket.

Figure 17. A majority of long-term care costs are paid out of pocket

For people turning age 65 between 2000 and 2024



Source: Assistant Secretary for Planning and Evaluation Issue Brief, *Long-Term Services and Supports for Older Americans: Risks and Financing 2020*, Table 3B and Table 5.

How should retirees plan for long-term care costs?

Retirees need to confront the possibility of an extended, expensive, long-term care stay. Even if the probability is relatively low, it is of a magnitude that is hard to ignore. Individuals should consider these factors when evaluating how likely they are to need this care and at what cost:

- **Unpaid options.** What sources of unpaid care would you have access to if needed? Are spouses, children, or friends available, capable, and willing to provide support, at least for a portion of the care?
- **Acceptable types.** What types of facilities and services are available? Would you be content using them? Would you prefer a private room in a nursing home?
- **What goes away?** Long-term care expenses may substitute for some other expenses. Which might disappear? Will a large travel budget no longer be applicable? Will a stay at a nursing home negate the need to pay for other housing costs? Certainly, care can be expensive, but one should really not be concerned with the absolute cost as much as the incremental additional cost over and above previous expenses.
- **Understand Medicaid.** A catastrophic long-term care event could deplete assets. People should therefore understand Medicaid rules well in advance. Those who believe that Medicaid may be part of their long-term care planning should consult with an elder law attorney.

Once people have gone through this scenario analysis, they can begin to get a sense of what magnitude of cost they want to plan for. Then they need to consider how they could meet it. Funding sources include:

- **Financial assets.** The biggest source of long-term care funding is private, out-of-pocket spending. Most affluent retirement investors will probably want to explicitly plan for this should the need arise. Assets should serve as both a source of annual income and a contingency reserve for large, unexpected expenses, including health care costs that may not be sufficiently covered by insurance. A plan that spends down a portfolio without consideration for the possible need for long-term care spending puts a retiree's financial stability at risk. Some are reluctant to spend freely from investments because they are reserving against this possibility.²⁹
- **Role of the home.** Home equity may serve as part of a contingency reserve for nursing home stays. Married retirees, however, need to consider a surviving spouse's continued use of the home.
- **Income annuities.** Single-premium income annuities and qualified longevity annuity contracts may be worth considering for some married retirees, not so much as a source of funding for care but rather as insurance for a surviving spouse. A guaranteed source of income to supplement Social Security for a survivor can lessen the severity of the financial effects of a low-probability, high-cost, long-term care event that significantly reduces assets.
- **Long-term care insurance.** Long-term care insurance pays for only a small portion of care in the U.S. Such policies have historically been expensive, and most have benefit caps that may reduce their usefulness in the most severe scenarios. However, as the market evolves, new policy types may emerge that individuals should evaluate. For now, traditional policies remain a relatively small player in the space.

Conclusion

Health and family history will significantly affect health care spending in retirement. In addition, consumption rises with age, and costs rise faster than inflation. People have become increasingly concerned about the effect this may have on financial security.

Planning for annual health care insurance premiums and out-of-pocket expenses at retirement should be distinct from planning for long-term care expenses. Framing annual costs as a large lump sum is behaviorally distracting and fails to highlight essential factors. We believe that a better approach is to forecast annual expenses personalized to individual attributes. Costs may increase substantially at retirement because of the possible loss of employer health care insurance premium subsidies. They are also influenced by a range of factors over which retirees have varying degrees of control, such as plan choice, geography, income, retirement age, and health status.

An understanding of personal factors provides a baseline for predicting incremental anticipated costs. During their working years, some people should save at higher rates to account for potential future incremental health care spending. Those with generous employer health care benefits and those at higher risk of chronic conditions because of either their current health status or their parental history should target higher replacement ratios.

Long-term care costs may actually be the biggest concern for most retirement planning scenarios, because consumption varies significantly. Half of the population will incur no costs, and a quarter will consume less than \$100,000. However, 15% will spend more than \$250,000. Factors such as individual health, family history, and presence of support networks will inform each person's need.

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Appendix: Mercer-Vanguard health care cost forecasting model methodology description

Introduction

The health care cost forecasting model provides likelihoods of estimated lifetime and annual health care costs expected in retirement in addition to estimates of long-term care costs. It relies on numerous assumptions and underlying data sources. All estimates are based upon the information available at a point in time and are subject to unforeseen and random events. Therefore, any projection must be interpreted as having a likely range of variability from the estimate. Mercer built this model exclusively for Vanguard. Mercer is not responsible for use of this model by any other parties. This report is based on our understanding of applicable law and regulations as of January 2021.

Structure of model

Our intent was to capture and forecast all types of health care costs (other than over-the-counter drugs) that a retiree may encounter during their lifetime. These costs included:

- Insurance premiums.
- Contributions to employer-sponsored plans.
- Required Medicare premiums.
- Out-of-pocket costs.

A standard actuarial forecasting approach was used to produce an estimate of the year-by-year costs (except for long-term care) that would be encountered during a person’s lifetime, both before and after retirement. Our key assumptions were:

- The current level of costs for each type of health care expenditure.
- The real inflation rate for each or the expected annual increase in per capita costs as appropriate.
- The variation in costs by age, as appropriate.

In addition, for most of the costs we looked at not only the average cost but also at the possible range of those costs, matching them to probability distributions where appropriate. This allowed a more nuanced analysis of potential health care costs for retirees and people planning for retirement. Although the model certainly does not capture every possible individual situation, it does allow us to analyze the costs in most situations.

The model inputs and key assumptions are described in more detail below.

Long-term care

Lifetime long-term care costs—from Table 6B of *Long-Term Services and Supports for Older Americans: Risks and Financing Research Brief*, published July 2015 by the U.S. Department of Health and Human Services—was fit to a probability distribution by each income quintile provided. The resulting lifetime costs are adjusted by an assumed Consumer Price Index (CPI) to the starting projection year. The costs were further adjusted based on gender, health status, and marital status developed from the same study. Last, an area factor developed from the *Genworth 2019 Cost of Care Survey* and the Society of Actuaries' incidence factors was applied.

Annual health care costs

The model forecasts health care costs separately for premium-related costs such as Medicare premiums, payments to insurers for an open-market plan, or contributions paid toward employer-sponsored coverage and out-of-pocket costs that the retiree pays through plan cost sharing (for example, deductibles and copays).

Medicare premium costs

Estimated Part B premiums and the Part D income-related monthly adjustment amounts (Part D-IRMAA) are determined based upon income at retirement (as provided by the model user) and 2020 Part B and Part D premiums by income.

Health insurance costs

Individuals have two sources for obtaining health care coverage: (1) an employer-sponsored plan, wherein the member typically receives an employer subsidy and pays the required contributions, or (2) the individual insurance market, wherein the member typically pays the entire premium. When known, contributions paid for employer-sponsored health insurance are used. Otherwise, benchmark data from Mercer's 2020 employer survey is used for the required contributions for employer-sponsored coverage. If open-market individual coverage is chosen, the lowest cost premium based on plan choice, area, and a given age range is used.

For Pre-Medicare individual coverage, we have limited plan choices to open-market plan choices to Silver and Bronze, as the majority of enrollment is in these plans. For Medicare-eligible retiree plan designs, we have limited our analysis to Medicare, a characteristic Medicare Advantage Plan with prescription drug (MAPD), Medicare Supplement Plan F, Medicare Supplement Plan G, Medicare Supplement Plan G with high deductible, Medicare Supplement Plan N, and Medicare Plan with a standard Prescription Drug Plan. The Mercer-Vanguard health care cost model does not include low-income premium or cost-sharing subsidies for MAPD.

Out-of-pocket costs

For out-of-pocket costs, we were unable to identify any one aggregate data source for all coverages and groups. Because the data comes from multiple sources, there may be some inconsistencies in the populations that we are unable to easily determine. For the active worker and pre-Medicare costs, we have broken down out-of-pocket costs by low (25th percentile), medium (25th to 75th percentile), and high risk (75th percentile). We have split the Medicare-eligible population by the same percentile breaks.

Mercer used a 2018 internal active data set for an over-age-50 population that represents roughly 20 million claim records. These costs were used to project active and pre-Medicare out-of-pocket costs. For Bronze and Silver estimated out-of-pocket costs, we have adjusted claims based on the cost share an average person is expected to pay (40% of total costs in the Bronze plan and 30% for the Silver plan) and available premium information. For the Medicare-eligible population, Mercer used the 2019 Optum medical data based on the 5% sample and prescription drug data (age 65+ population).

Mercer benchmarking on cost and contributions were used for vision and dental. Given the lower costs of these coverages in proportion to medical and prescription drug claims and the limited data, only average costs were used.

Claims factor loads

Health status impact

Based on inputs provided by a user of the model, individuals are classified into a health status. Although that person's health status will not change over time for purposes of this modeling, their out-of-pocket costs will still fluctuate based on the distribution of expenditures for their risk tier.

Factor adjustments

Per capita claims are adjusted with trend and aging. Per capita claims and contributions are adjusted to a given year using assumed real trend factors. All trends are net of CPI in order to present costs in current dollars. Trends differ depending on the coverage (Part A, Part B, and Part D, dental, vision, and so forth). After these estimated out-of-pocket costs have been adjusted by aging and trend, area costs are applied.

The Mercer-Vanguard health care cost model is also based on requirements arising under the Affordable Care Act as of the date of this paper. These could change or be clarified in a manner that may materially impact the analysis and resulting determinations.

