MILLIMAN WHITE PAPER

Health Care Costs in Retirement – 2021 Update

Prepared for Envestnet® for use in MoneyGuidePro®

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Milliman

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A. Executive Summary

Milliman, Inc. (Milliman) was contracted by Envestnet® (PIEtech) beginning in 2018 to annually provide retiree health care cost data and assumptions for use in MoneyGuidePro® retirement planning software. Our analysis is based on publicly available data and retiree health care cost data from our *Milliman Health Cost Guidelines™* combined with other Milliman internal research. We developed data and assumptions for the following:

- Long-term health care cost trend
- Pre-Medicare premiums
- Pre-Medicare out-of-pocket costs
- Medicare eligible premiums
- Medicare eligible out-of-pocket costs

Summarized findings are provided below. Sections B through F describe the results of our analysis, and Section G outlines the methodology used.

LONG-TERM HEALTH CARE COST TREND

Long-term changes in health care costs are important to consider in any projection of retiree health care costs. The conventional wisdom in the industry has shifted from a static rate (such as 6% per year) to a rate that considers macroeconomic factors, such as the percentage of the U.S. Gross Domestic Product (GDP) spent on health care. This methodology results in an effective trend rate that declines with longer planning horizons. This section describes our methodology for selecting the health care cost trend assumption in excess of the general inflation, or Consumer Price Index (CPI), assumption. The long-term rate varies based on planning horizon from approximately CPI+3.0% for shorter horizons to CPI+2.3% for longer horizons.

PRE-MEDICARE PREMIUMS

Individuals who retire prior to age 65 have the option to purchase health care coverage on an Affordable Care Act (ACA) exchange. We have summarized premium costs by state for Bronze plans. We also discuss the potential impact of Advanced Premium Tax Credits (APTC). The 2021 statewide average annual premiums for a 60-year old range from approximately $5,620 to $16,230 before the application of APTCs.

PRE-MEDICARE OUT-OF-POCKET COSTS

For pre-Medicare retirees, out-of-pocket costs that retirees pay in addition to premiums can vary considerably for Bronze plans. We developed 2021 costs that vary by age, gender, and state. We also looked at three cost levels based on health status. This analysis shows variation in nationwide out-of-pocket costs from $0 to $7,670 per year. We discuss situations where out-of-pocket costs may be higher. We also discuss the potential impact of Cost Sharing Reduction (CSR) subsidies.

MEDICARE ELIGIBLE PREMIUMS

After age 65, we have developed premium costs for two options:

1. Medicare Supplement Plan G plus a Part D standard plan
2. Medicare Advantage plan with prescription drug coverage. For purposes of this paper, we will refer to this as an MAPD plan.

The results are summarized by state. The 2021 statewide average annual premiums vary from approximately $1,100 to $4,230 for Medicare Supplement Plan G, from $290 to $600 for a standard Part D plan, and from $40 to $1,180 for MAPD plans.

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MEDICARE ELIGIBLE OUT-OF-POCKET COSTS

For Medicare eligible retirees, out-of-pocket costs that retirees pay in addition to premiums vary by age, gender, and health status. For 2021, this analysis shows variation in nationwide average annual standard Part D plan out-of-pocket costs from $110 to $2,030. For MAPD plans, there is variation in nationwide average annual out-of-pocket costs from $30 to $3,290. Note that there are situations that may result in higher or lower costs. Medicare Supplement Plan G costs are simply the annual Medicare Part B deductible of $203, which we have assumed all individuals will reach. Note that we used Plan G rather than Plan F, since Plan F is no longer available to new retirees as of January 1, 2020.

ANNUAL UPDATE

The list below outlines the percent change in the nationwide premium and out-of-pocket (OOP) health care costs for retirees from 2020 to 2021. Geographic variation by state may be different than the nationwide averages.

Nationwide Average	2020	2021	% Increase/ (Decrease)
Pre-Medicare Premiums (60-yr old)	$9,789	$9,266	(5.4%)
Pre-Medicare OOP Costs* (60-yr old)	$3,888	$3,674	(5.5%)
Medicare Eligible Premiums (70-yr old)			
▪ Med Supp Plan G	$1,785	$1,840	3.1%
▪ Part D Standard	$427	$390	(8.7%)
▪ Medicare Part B	$1,735	$1,782	2.7%
▪ MAPD**	$335	$283	(15.3%)
Medicare Eligible OOP Costs (70-yr old)			
▪ Med Supp Plan G	$198	$203	2.5%
▪ Part D Standard*	$885	$856	(3.3%)
▪ MAPD**	$1,313	$874	(33.5%)

* Based on averaging the female and male costs. All other costs shown above do not vary by gender.

** MAPD includes both medical and prescription drug costs.

In addition to the costs noted above, the 2021 projections for long-term health care cost trend range from 0.0-0.1% per year higher than in 2020.

Further discussion of these annual changes can be found at the end of each section.

COVID-19

The COVID-19 pandemic has had a dramatic effect on health care costs over the course of the past year, and there remains substantial uncertainty regarding the future impact of COVID-19. The effect on 2021 premiums may vary significantly by carrier, and it is unclear what portion of the premium changes from 2020 to 2021 are due to COVID-19. While some premiums may have explicit COVID-19 adjustments, we have chosen not to make any other explicit adjustments to the projected premium or out-of-pocket costs in this analysis due to COVID-19. It is possible that the COVID-19 pandemic could have a material impact on the projected costs.

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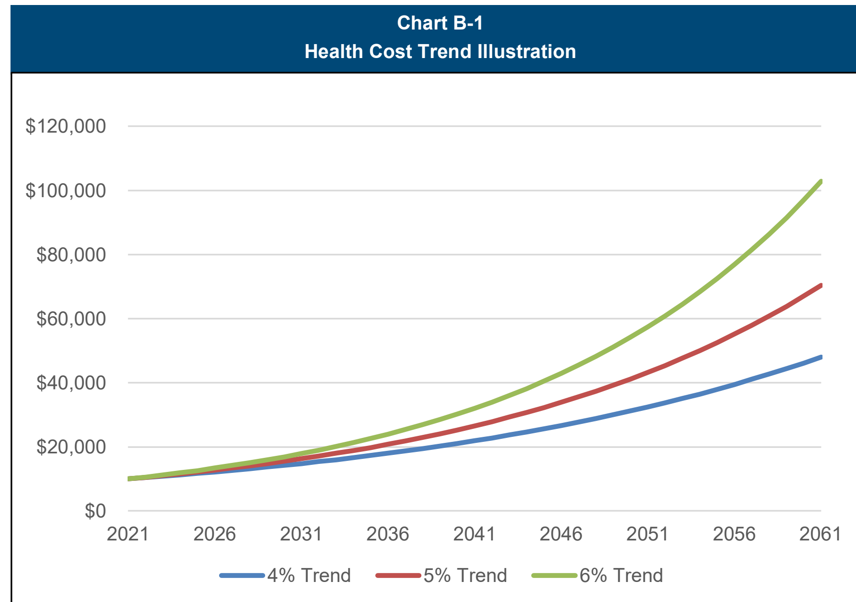
B. Long-Term Health Care Cost Trend

IMPACT OF TREND VARIABILITY

The health care cost trend assumption is a very powerful component of the projection of retiree health care costs because it operates for the entire planning horizon from current age through the end of the retirement years. Small changes of even one to two percent per year in health care cost trend can result in very large differences in retiree health care costs, as shown in Chart B-1. Note that the costs in Chart B-1 are illustrative.

Chart B-1
Health Cost Trend Illustration



This chart shows three scenarios of growth in health spending over a 40-year period, from a current value of $10,000 per year. The chart reveals that over a 40-year period, costs would grow to nearly five times the starting value at a 4% annual trend. However, costs would grow to over ten times the starting value at a 6% annual trend, which is more than double the eventual costs with a 4% trend.

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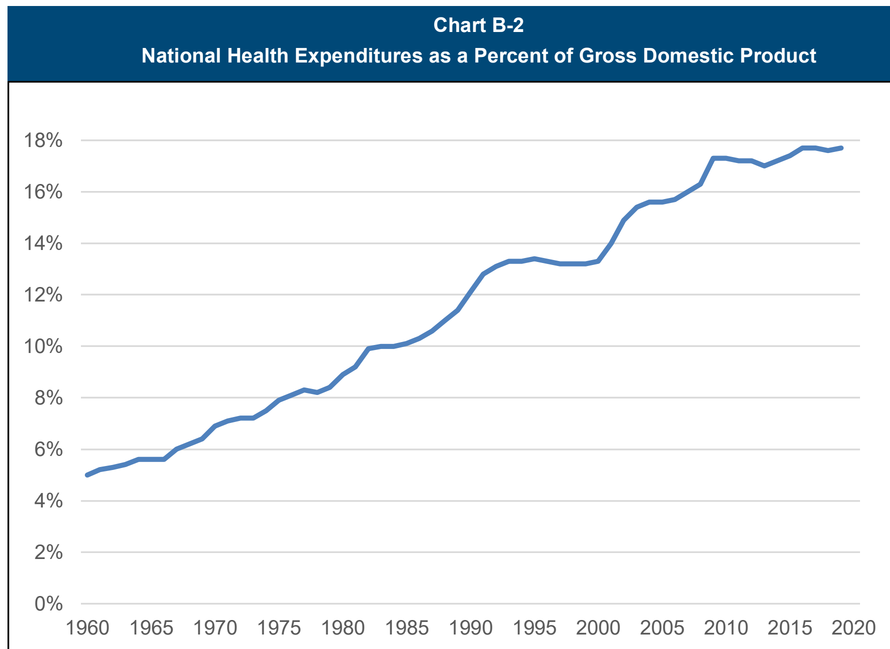
U.S. HEALTH CARE SPENDING

Spending on health care as a percentage of the U.S. GDP has increased dramatically since the 1960's[1], as shown in Chart B-2.



This increase from 5.0% in 1960 to 17.7% in 2019 is a result of many factors that we do not attempt to discuss in this paper. Many health care economists have theorized that this pattern of increases cannot continue indefinitely and that health care spending as a percentage of U.S. GDP will ultimately reach a limit.

The Society of Actuaries (SOA) publishes research annually on the future of health care cost trends[2]. Milliman uses this research as a basis for our long-term trend assumptions. Based on SOA and Milliman research, the limit on health care spending is currently projected to be reached around the year 2074, at roughly 29.4% of GDP. We have used the following assumptions in developing our long-term trend assumptions.

- Annual increase in real GDP per capita: 1.5%
- Excess health care cost growth above the rate of increase in total GDP: 1.1%
- Share of GDP above which cost growth is assumed to meet resistance: 25.0%

[1] https://www.cms.gov/files/zip/nhe-summary-including-share-gdp-cy-1960-2019.zip

[2] https://www.soa.org/resources/research-reports/2019/getzen-model-update/

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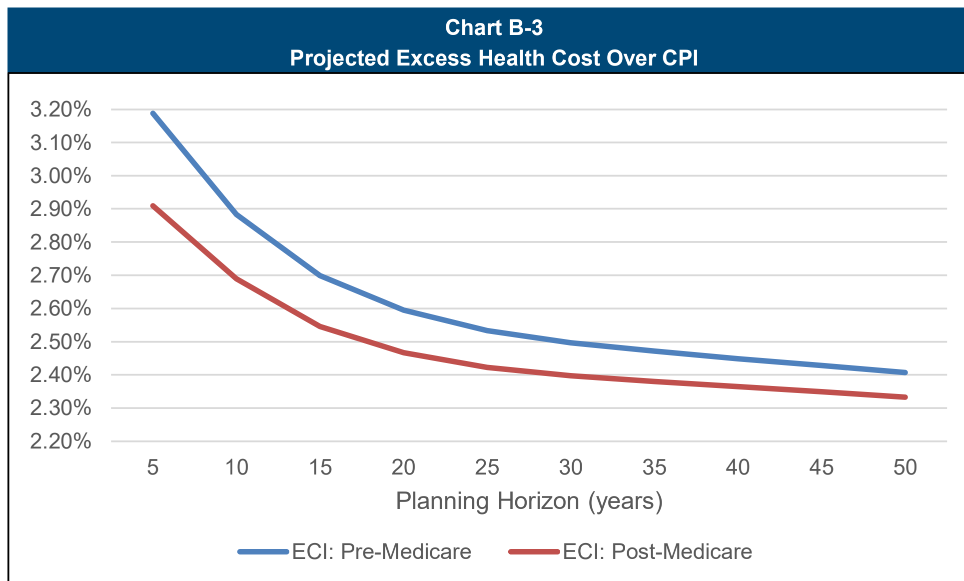
RECOMMENDED HEALTH CARE COST TRENDS

This White Paper has the objective of recommending health care cost assumptions in the context of overall retirement financial planning. In order for the entire financial model to hold together, the assumptions used for projecting assets available for retirement spending need to be consistent with the assumptions used for projecting expenditures in retirement. The inflation (or CPI) assumption is a component of both the asset and the expenditure projections. Therefore, we recommend expressing the health care cost trend assumption as a percentage in excess of the CPI used for the asset projection. This excess is referred to as the Excess Cost Increase (ECI).

Per the section above, the percentage of GDP spent on health care is projected to increase more slowly over time and ultimately reach equilibrium. For that reason, the ECI assumption should be higher for short-term projections and lower for long-term projections. Chart B-3 shows recommended guidelines for the ECI assumption based on different planning horizons.

Chart B-3
Projected Excess Health Cost Over CPI



The planning horizon is defined as the time between an individual's current age and the end of his or her retirement years. The choice of an ECI will depend on how much of the planning horizon is pre-Medicare versus post-Medicare eligibility. For most people, Medicare eligibility is at age 65, based on current law, unless a person becomes totally and permanently disabled at an earlier age. For example, a 40-year old planning on a 50-year horizon may want to pick an ECI that is in the 2.3% range.

Note that we evaluated the effect of a deferral period at the beginning of the planning horizon and found it to have very little impact on the ECI.

The ECI should be applied to the sum of premiums and out-of-pocket costs developed in this White Paper.

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Note also that the ECI values in Chart B-3 represent broad long-term national averages. The potential exists for market forces to cause short-term health care cost trends to be significantly higher or lower than these values for many reasons, including the following:

- Changes in the health status of individuals purchasing health care coverage can affect how insurers set premiums.
- Legislative changes, such as the removal of the individual mandate to purchase health insurance[3], are likely to add to the volatility of premium trends for pre-Medicare retirees.
- Technological changes, such as new treatment procedures or new drugs coming to market, affect trends.
- Differences in how states regulate and manage health care cause geographical variation in health care cost trends.

Retirees may want to add some margin to their trend assumption to increase the likelihood that their planning will allow for this potential variation.

ANNUAL UPDATE

Slight increases in short-term trend assumptions have led to an overall increase in projected health care cost trend. Compared to 2020, the 2021 projections range from 0.0-0.1% per year higher. Our recommendation for the example of a 40-year old planning on a 50-year horizon remains the same at 2.3% per year.

[3] The Tax Cut and Jobs Act of 2017 repeals the individual mandate penalties for not purchasing health insurance after 2018.

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C. Pre-Medicare Premiums

Before Medicare eligibility, retirees have the option to purchase a health care plan from one of the health insurance exchanges that were established as part of the ACA. Each of the 50 states plus the District of Columbia (D.C.) has an exchange. Twelve states plus D.C. have a state-based exchange[4], and the other 38 states use the federal exchange platform. The products available on the exchanges are labeled by metal level: Platinum, Gold, Silver, and Bronze. The metal levels correspond to the following actuarial values:

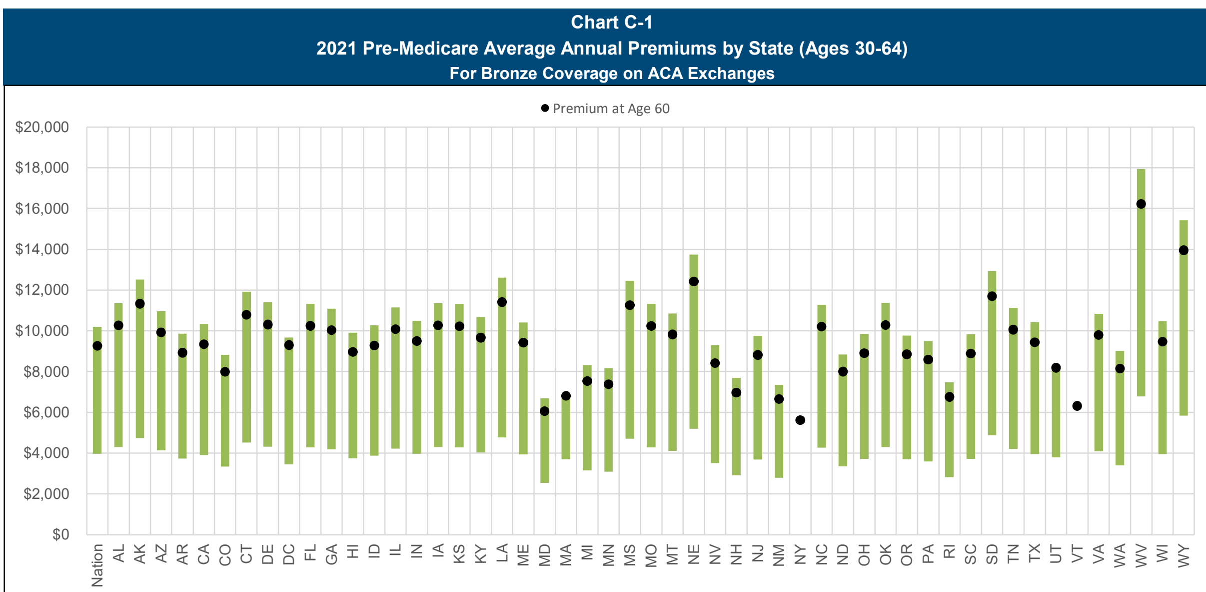
Table C-1
Actuarial Values by Metal Level

Metal Level	Actuarial Value
Platinum	90%
Gold	80%
Silver	70%
Bronze	60%

The actuarial values refer to the percentage of health care costs paid by the plan on average. While the Silver metal level plans have been the most popular, 2018 premiums for Silver plans had some unusual changes from 2017 premiums across the U.S. due to the discontinuation of the CSR payments to insurers as described in Section D. Therefore, premiums for Bronze plans have been used since 2018.

EXCHANGE PREMIUMS

Chart C-1 below shows the average 2021 annual premiums for Bronze coverage on the ACA exchanges. The range of rates for ages 30-64 is shown for each state, and the rates do not vary by gender. The chart shows that there is considerable variation by state.



Note that premiums do not vary by age in New York or Vermont.

[4] https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/state-marketplaces

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PREMIUM TAX CREDITS

Under current law as enhanced by the American Rescue Plan Act of 2021[5] (ARP), retirees with Household Income (HHI) above 100 percent[6] of the Federal Poverty Level (FPL) may be eligible for Advance Premium Tax Credits (APTC) to purchase a health care plan on an ACA exchange. The 2020 HHI thresholds for the 48 contiguous states (which apply to APTC eligibility in 2021) at 100% FPL (and at 400% FPL, for illustrative purposes) are as follows:

Table C-2
2020 HHI Annual Income Thresholds by Size of Household

Persons in Household	HHI 100% FPL	HHI 400% FPL
1	$12,760	$51,040
2	$17,240	$68,960
3	$21,720	$86,880
4	$26,200	$104,800

Source: https://aspe.hhs.gov/2020-poverty-guidelines (excerpted)

Note that household income is described further by the IRS[7].

The APTCs as enhanced by the ARP are designed to limit the premium cost of the second lowest cost Silver plan to the following percentages of HHI in 2021:

Table C-3
2021 Premium Limits
Second Lowest Cost Silver Plan

	Percentage of HHI	
Income Level	**Current Law**	**Prior to the ARP**
Up to 133% FPL	0%	2.07%
133 – 150% FPL	0%	3.10 – 4.14%
150 – 200% FPL	0 – 2%	4.14 – 6.52%
200 – 250% FPL	2 – 4%	6.52 – 8.33%
250 – 300% FPL	4 – 6%	8.33 – 9.83%
300 – 400% FPL	6 – 8.5%	9.83%
400% FPL and above	8.5%	No limit

Sources: https://www.congress.gov/bill/117th-congress/house-bill/1319/text
https://www.irs.gov/pub/irs-drop/rp-20-36.pdf

Note we have included prior law premium limits for 2021 in addition to current limits. The ARP only adjusts the limits for years 2021 and 2022. Since the APTCs are calculated based on Silver plan premiums, and Bronze plan premiums are generally less than Silver plan premiums, retirees who receive APTCs and purchase a Bronze plan may have premiums that are a lower percentage of HHI than those shown in the table above.

The Bronze plan premiums shown in Chart C-1 are not reduced by any APTC amounts since those amounts vary based on HHI. However, it is important that retirees consider the impact of APTCs and the reversion to prior law in their retirement expense projections.

Note that the ARP also provides the second lowest cost Silver plan for free for the entire year to individuals who receive unemployment for any week in 2021.

[5] See https://www.milliman.com/en/insight/americas-rescue-plan-impacts-on-private-health-coverage

[6] The ARP repealed a cap on subsidy eligibility at 400% FPL and decreased the premium limits discussed in Table C-3. These changes will revert to prior levels in 2023 barring further congressional action.

[7] See https://www.irs.gov/affordable-care-act/individuals-and-families/questions-and-answers-on-the-premium-tax-credit (#8)

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ANNUAL UPDATE

From 2020 to 2021, there was a 5.4% decrease in the nationwide average premium (at age 60) for Bronze plans available on the ACA exchanges. Prices have dropped as a result of lower than expected claims experience, increased competition, and expanded choice. Most of the decrease is a result of a change in the averaging methodology, as premiums now reflect a weighted average for each state based on projected enrollment by plan from each carrier in the marketplace (as opposed to a straight average of all available plans, as in prior years).

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D. Pre-Medicare Out-of-Pocket Costs

In addition to premiums, retirees pay out-of-pocket (OOP) costs when they access health care. We estimated these OOP costs by running the following sample Bronze plan design through our cost models. Note that many plans have "in-network" and "out-of-network" benefits. For our modeling, retirees are assumed to receive all health care from providers that are defined by the plan to be "in-network." The amounts in the table below are per person.

Table D-1 Bronze Plan Design	
Feature	**In-Network OOP**
Annual Deductible	$5,000
Retiree Coinsurance	25%
Annual OOP Maximum	$8,350

In general, a Bronze plan must have an actuarial value (i.e., the percentage of costs covered by the plan) between 56% and 62%. If a Bronze plan covers at least one major service (other than preventive care) before the deductible or meets the definition of a high deductible health plan (HDHP), then the actuarial value may be as high as 65%[8]. The plan design above represents an actuarial value of approximately 64%, based on the nationwide average Bronze plan design (weighted on projected 2021 enrollment by plan).

OUT-OF-POCKET COSTS

In order to illustrate the potential variation in OOP costs, we analyzed three hypothetical cost levels at each age and gender category:

LOW COST

We defined a low cost individual to represent an average of the lowest 33% of individuals for each age and gender category. Note that this does not necessarily represent the lowest possible OOP cost, which would be zero for individuals who do not receive any health care services in a given year.

AVERAGE COST

We defined an average cost individual to be the overall average of all individuals for each age and gender category.

HIGH COST

We defined a high cost individual to represent an average of the highest 33% of individuals for each age and gender category. Note that this does not necessarily represent the highest possible OOP cost, which would be $8,000 for in-network services under the sample Bronze plan design for individuals who have very high health care costs in a given year.

[8] See https://www.federalregister.gov/documents/2017/04/18/2017-07712/patient-protection-and-affordable-care-act-market-stabilization

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Chart D-1 displays the annual OOP costs by state for the three cost levels, separated by males and females at age 60. This reveals relatively little variation by state.

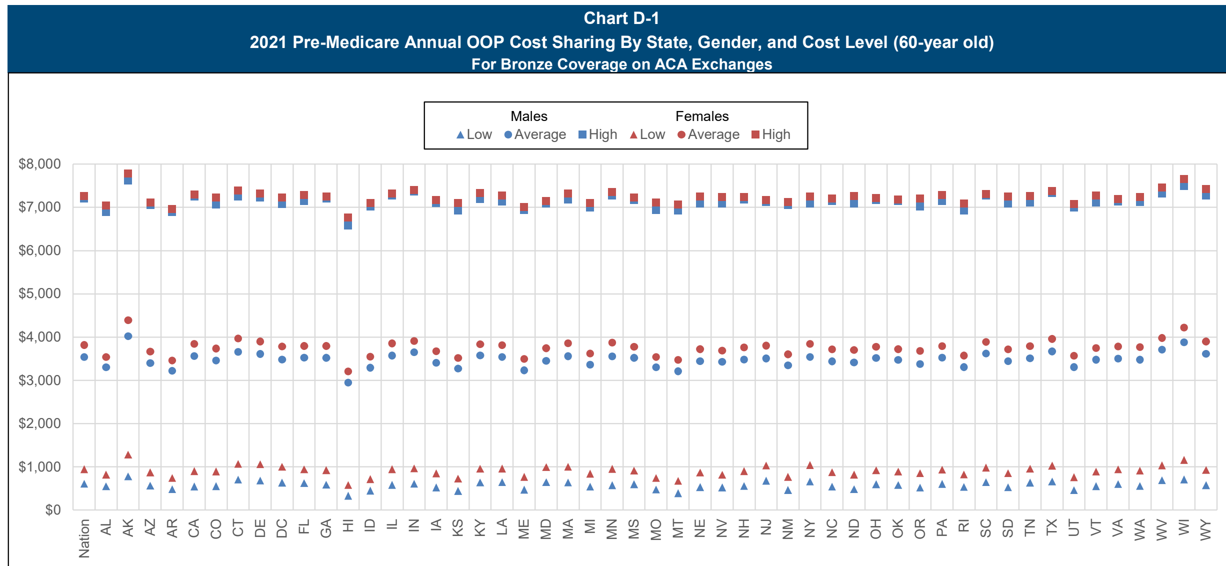
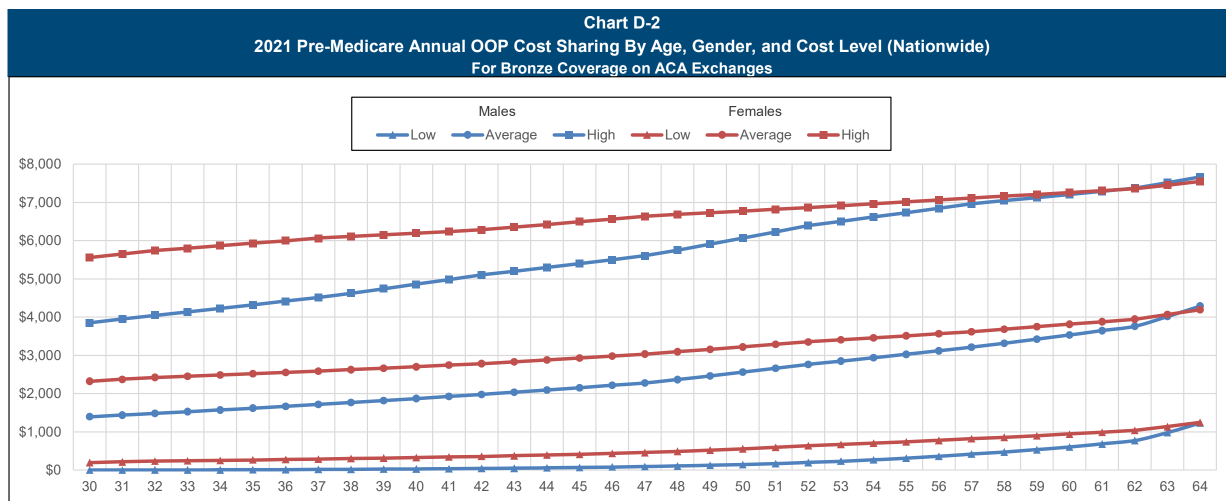


Chart D-2 shows the nationwide average annual OOP costs by age, gender, and cost level. The variance in OOP costs is significant, ranging from $0 to $1,250 at the low cost level and from $1,400 to $4,290 at the average cost level. There is also variation at the high cost level from $3,850 to $7,670, although most of the variation is for ages before people typically retire.



Note that there are several additional considerations with respect to OOP costs:

1. From time to time, some retirees may receive health care services from “out-of-network” providers, resulting in OOP costs that could be 10 or more times higher than the $8,350 annual maximum for the sample Bronze plan.
2. From year to year, retirees may move among low, average, and high cost categories due to temporary changes in health status that could arise from accidents or sickness.
3. Retirees may tend to stay in the high cost category from year to year if they have long-term, chronic conditions that require ongoing treatment.

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Retirees should consider assuming future OOP costs are higher than their current health status would indicate. Specifically, as retirees age and/or approach the end of their lives, health declines, and for most people, health care expenses increase.

COST SHARING REDUCTIONS

Pre-Medicare eligible retirees who have HHI between 100% and 250% of the FPL may be eligible for CSR subsidies if they purchase a Silver exchange plan. The CSRs can reduce the OOP costs to be similar to a Gold or Platinum plan as shown in the table below.

Table D-2
CSR Adjusted Actuarial Values

Income Level	Actuarial Value
100 – 150% FPL	94%
150 – 200% FPL	87%
200 – 250% FPL	73%
More than 250% FPL	70%

Source: https://obamacarefacts.com/insurance-exchange/cost-sharing-reduction-subsidies-csr/

Therefore, retirees with HHI under 250% of FPL who purchase Silver plans may have OOP costs that are much lower than illustrated in this section. Most retirees who purchase Bronze plans are not eligible for CSRs. Under the ARP, individuals who receive unemployment in any week during 2021 are eligible for the 94% CSR plan variation.

Prior to October 12, 2017, the CSRs were paid directly to health insurance companies by the federal government. Effective October 12, 2017, the federal funding of CSR payments was discontinued. Since the CSRs are still required to be provided, insurers in some states reflected this change by dramatically increasing Silver plan premiums for 2018, while others did not. This resulted in considerable variation in 2018 Silver premiums by state and insurer, which continues to be true in 2021.

ANNUAL UPDATE

From 2020 to 2021, there was a 5.5% decrease in nationwide average OOP costs (at age 60) based on the Bronze plan design described above. This reflects the decreased cost sharing of the plan design in 2021 as well as some variation in underlying assumptions such as assumed carrier discounts and claims probability distributions.

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E. Medicare Eligible Premiums

Eligibility for Medicare generally occurs at age 65 for retirees. There are a few exceptions to this, such as disabled retirees with earlier Medicare eligibility or retirees whose employer does not participate in Medicare.

The health care plans that are available to retirees change dramatically at age 65, and they fall into two major categories:

1. Medicare Supplement Plans
2. Medicare Advantage Plans

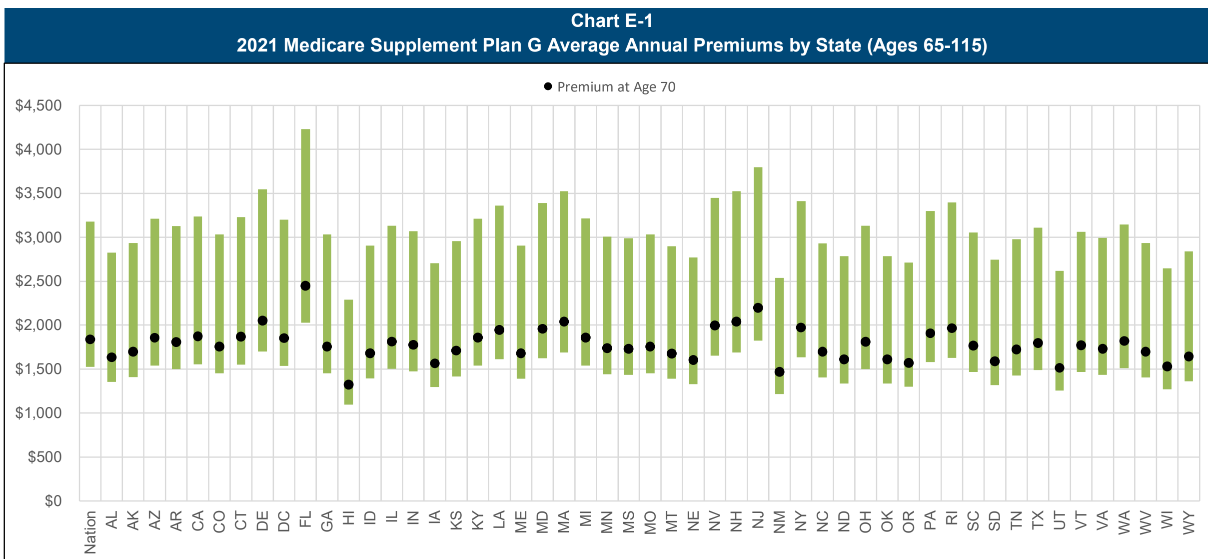
Both of these types are often coupled with prescription drug coverage as well.

MEDICARE SUPPLEMENT PLANS

Medicare eligible retirees have the option to purchase Medicare Supplement coverage that provides benefits in addition to traditional Medicare Part A and Part B benefits. For purposes of this analysis, we have used Medicare Supplement Plan G, which pays for all Part A and Part B charges not covered by Medicare except for the Medicare Part B deductible.

Chart E-1 below shows the 2021 estimated average annual premiums for Medicare Supplement Plan G coverage. The chart shows that there is some variation by state. Note also that there is considerable variation by age. The low end of the bars represents the age 65 rates, and the high end represents the rates near age 100. The ratio of high to low based on age is over 2 to 1.

Chart E-1
2021 Medicare Supplement Plan G Average Annual Premiums by State (Ages 65-115)



Note that the variation reflects expected cost differences due to age and geography. There is also variation due to insurance market conditions, different carrier pricing and distribution philosophies, regulatory restrictions, and cost variability within states that is not explicitly reflected in Chart E-1.

In addition to the plan premium, Plan G enrollees will pay the Medicare Part B premium. In 2021, the standard Part B monthly premium is $148.50. This amount may be increased based on income (up to $504.90 for individual income above $500,000). During periods of low inflation, the Part B premium may be less than the standard amount for individuals whose annual increase in Social Security benefit is less than the increase in premium. For simplicity, we have assumed the standard amount of $148.50 for all individuals choosing to enroll in Plan G.

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Medicare eligible retirees also have the option to purchase prescription drug coverage under a Medicare Part D plan. Part D plans are often purchased in addition to Plan G to provide coverage that includes prescription drugs. The Part D standard benefit is shown below. Amounts in the table below are per person.

Table E-1
2021 Medicare Part D Standard Benefit

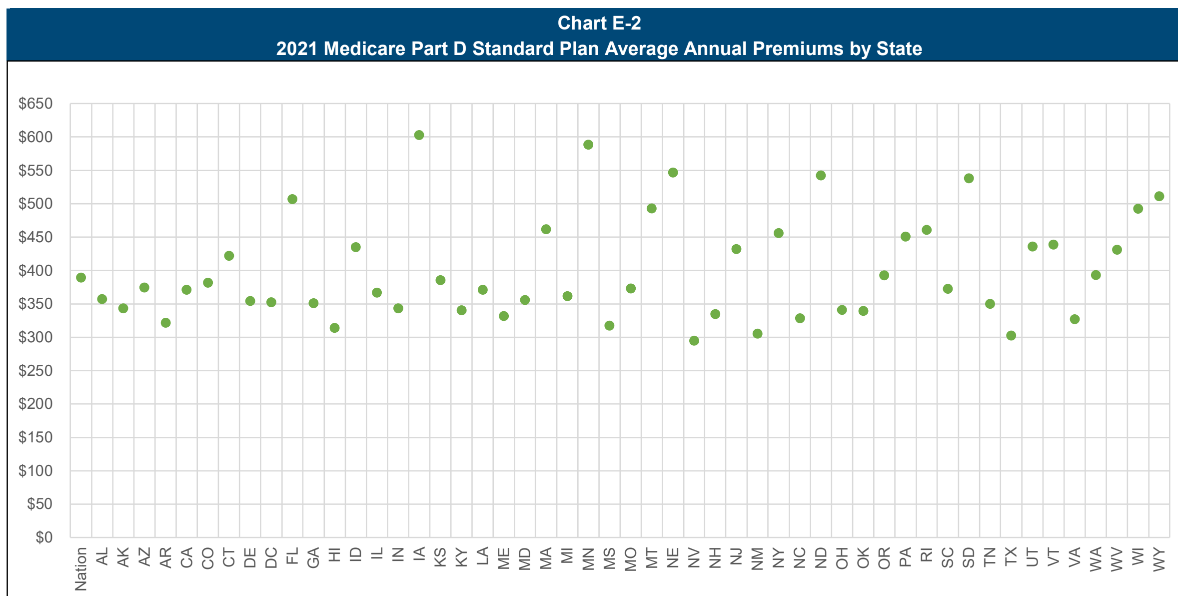
Feature	Annual Retiree Cost
Deductible	$445
Initial Coverage Limit	25%, up to a coverage limit of $4,130
Coverage Gap ("Donut Hole")	25%, until Catastrophic Cost Threshold is met
Catastrophic Cost Threshold	$6,550
Copay after Catastrophic Cost Threshold	Greater of 5% and $3.70 (Generic/Preferred) Greater of 5% and $9.20 (Other Drugs)

Source: https://cmsnationaltrainingprogram.cms.gov/system/files_force/Standard%20Drug%20Costs_2021_508_Final_0.pdf?download=1

As of 2020, the "donut hole" has closed. Cost sharing in the gap now differs as follows:

- Part D plan participants pay 25% of all drug costs after the initial coverage limit is reached and until the catastrophic cost threshold is met.
- For generic drugs, only the participant's cost sharing counts towards the threshold.
- For brand name drugs, 95% of total costs count towards the threshold (25% coinsurance plus 70% manufacturer-paid).

Chart E-2 below shows the 2021 average annual premiums for standard Part D coverage. The chart shows that there is considerable variation by state, from a low annual premium of $290 to a high of $600. Note that Medicare Part D premiums do not vary by age or gender.



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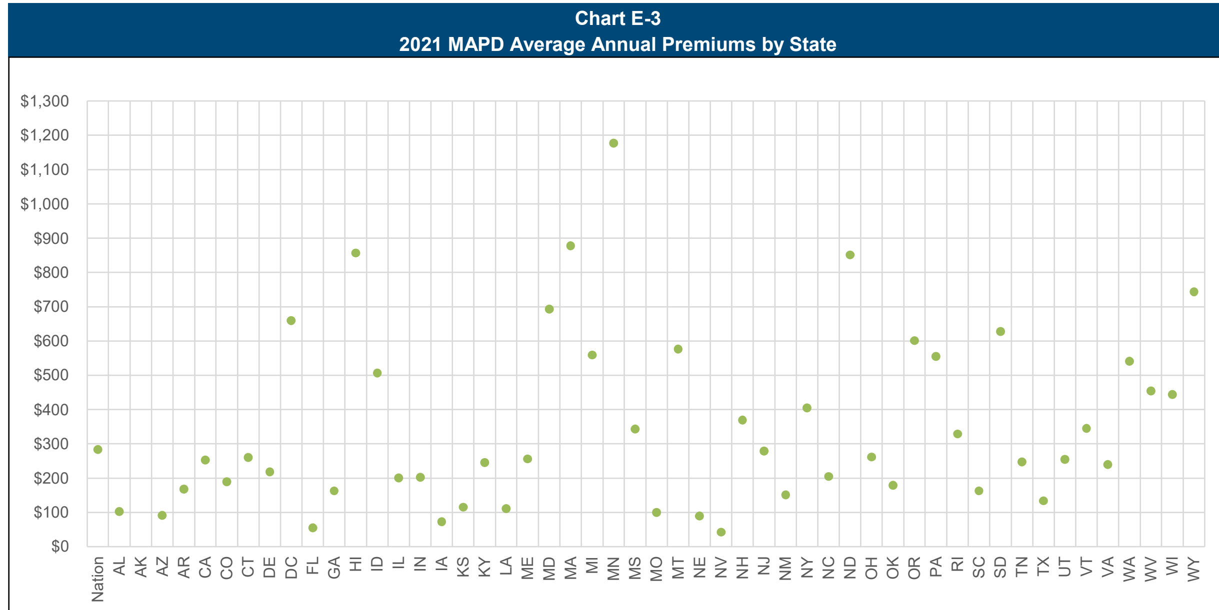
MEDICARE ADVANTAGE PLANS

Instead of purchasing a Medicare Supplement plan, Medicare eligible retirees can instead purchase an MAPD plan. There is considerable variation in the designs of MAPD plans that are available, and there is no standard design that is available everywhere. For that reason, we averaged the premiums across the market for each state, and they are summarized in Chart E-3. The plans in the average include medical and pharmacy coverage.

Chart E-3
2021 MAPD Average Annual Premiums by State



Note that no Medicare Advantage plans are currently offered in Alaska.

In addition to the plan premium, MAPD enrollees will also pay the Medicare Part B premium. In 2021, the standard Part B monthly premium is $148.50. This amount may be increased based on income (up to $504.90 for individual income above $500,000). During periods of low inflation, the Part B premium may be less than the standard amount for individuals whose annual increase in Social Security benefit is less than the increase in premium.

Some MAPD plans feature a “buy-down” of the Part B premium, resulting in a cost less than the standard premium for enrollees. On average, the impact of these “buy-downs” is less than $2 per month nationwide.

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ANNUAL UPDATE

The following changes in Medicare eligible premiums apply from 2020 to 2021:

- Medicare Supplement Plan G: There was a 3.1% increase in nationwide average premium at age 70. This increase represents overall trend on the Medicare population, partially offset by a decrease in the assumed administrative costs as a percent of premium.
- Medicare Part D Standard Benefit: There was an 8.7% decrease in nationwide average premium. This is almost entirely due to updated methodology where the average is now weighted on the most recent (February 2021) enrollment by plan from CMS[9].
- Medicare Part B Premium: There was a 2.7% increase in the nationwide premium from $144.60 in 2020 to $148.50 in 2021.
- MAPD: There was a 15.3% decrease in the nationwide average premium. Improvements in the program and increased market competition are main drivers of lower premiums. Lower rates have led members to richer benefit plan offerings, in general.

[9] See https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAdvPartDEnrolData/Monthly-Enrollment-by-Contract-Plan-State-County

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F. Medicare Eligible Out-of-Pocket Costs

The OOP costs differ between Medicare Supplement and Medicare Advantage plans.

MEDICARE SUPPLEMENT PLANS

For Medicare Supplement Plan G, the only OOP costs are the payment of the Medicare Part B deductible of $203 in 2021. For simplicity, we assume that all retirees will have OOP costs of $203.

The OOP costs for a standard Part D plan vary by age and gender. In order to get a feel for the potential variation in OOP costs, we analyzed three hypothetical cost levels at each age and gender:

LOW COST

We defined a low cost individual to represent an average of the lowest 33% of individuals for each age and gender category. Note that this does not necessarily represent the lowest possible OOP cost, which would be zero for individuals who do not have any health care in a given year.

AVERAGE COST

We defined an average cost individual to be the overall average of all individuals for each age and gender.

HIGH COST

We defined a high cost individual to represent an average of the highest 33% of individuals for each age and gender category. Note that this does not represent the highest possible OOP cost, which is not limited, as there still exists cost sharing above the Maximum OOP Threshold noted in the design in Section E.

Chart F-1 displays the 2021 Part D annual OOP costs by state for the three cost levels, separated by males and females at age 70. This reveals that there is relatively little variation by state.

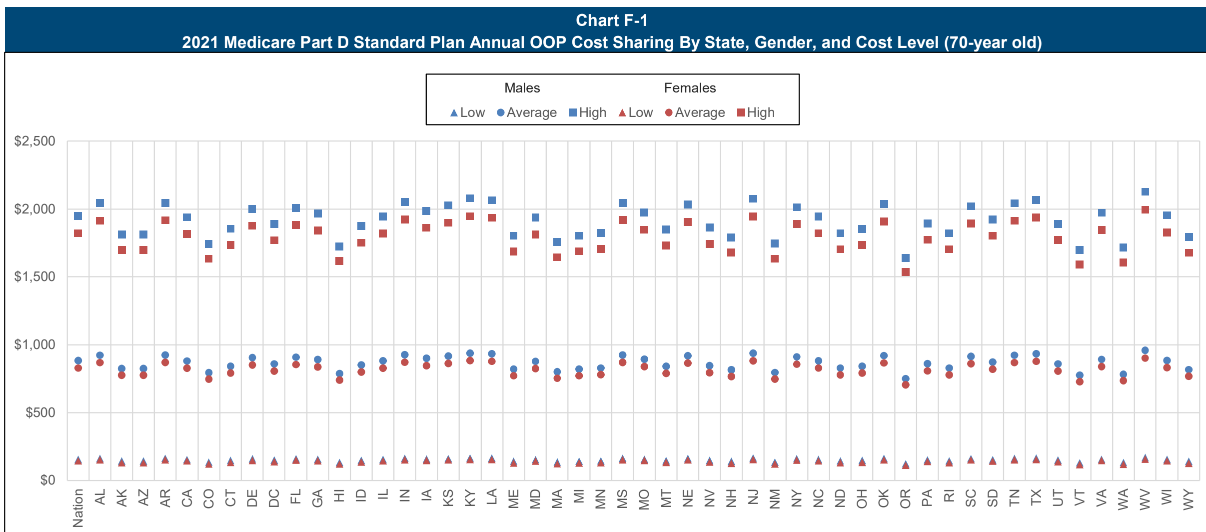

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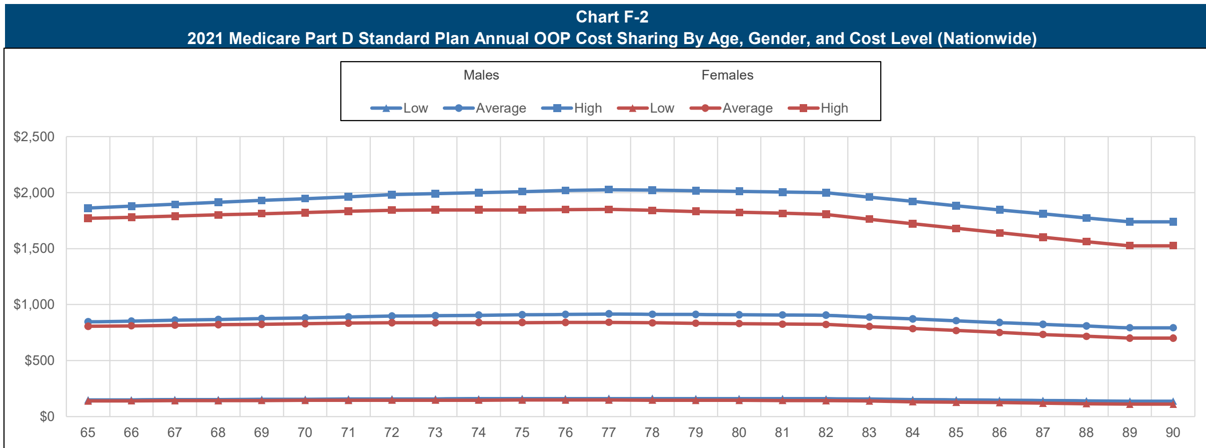
Chart F-2 shows the 2021 nationwide average annual OOP costs by age, gender, and cost level. The OOP costs do not vary much by age, but they vary considerably by cost level (low, average, high).

Chart F-2
2021 Medicare Part D Standard Plan Annual OOP Cost Sharing By Age, Gender, and Cost Level (Nationwide)



MEDICARE ADVANTAGE PLANS

The average OOP costs by state for MAPD plans also vary by low, average, and high cost individuals. Chart F-3 shows this variation by state. Note that the cost levels are defined as follows:

LOW COST

We defined a low cost individual to represent an average of the lowest 33% of individuals for each age and gender category. Note that this does not represent the lowest possible OOP cost, which would be zero for individuals who do not have any health care in a given year.

AVERAGE COST

We defined an average cost individual to be the overall average of all individuals for each age and gender.

HIGH COST

We defined a high cost individual to represent an average of the highest 33% of individuals for each age and gender category. Note that this does not represent the highest possible OOP cost.

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The OOP costs in Chart F-3 are lower than they otherwise would be as a result of "value added" benefits that many MAPD plans provide. These are discussed in more detail in Section G.

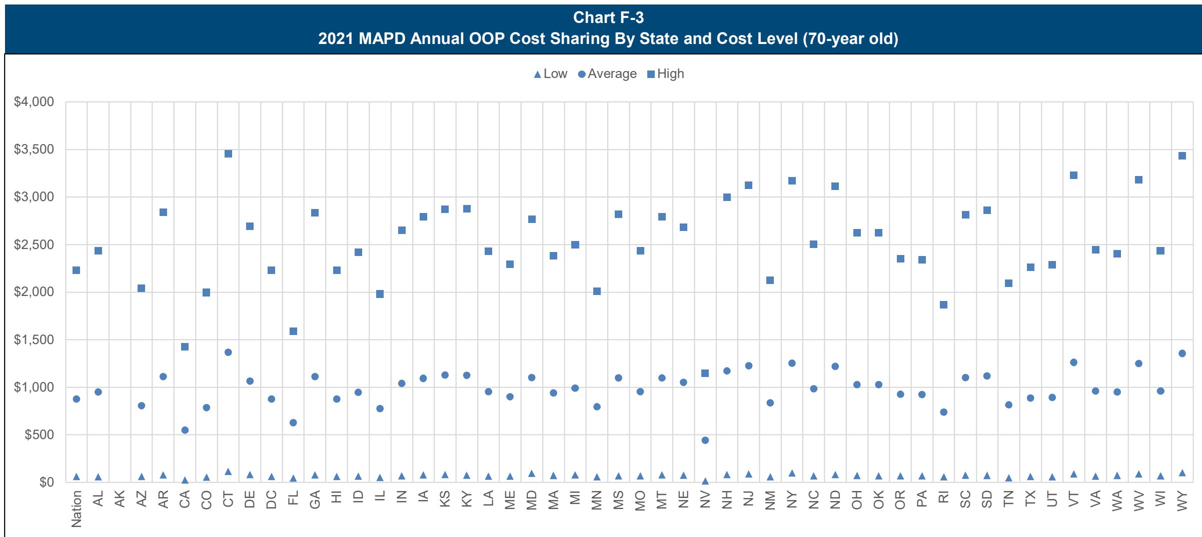
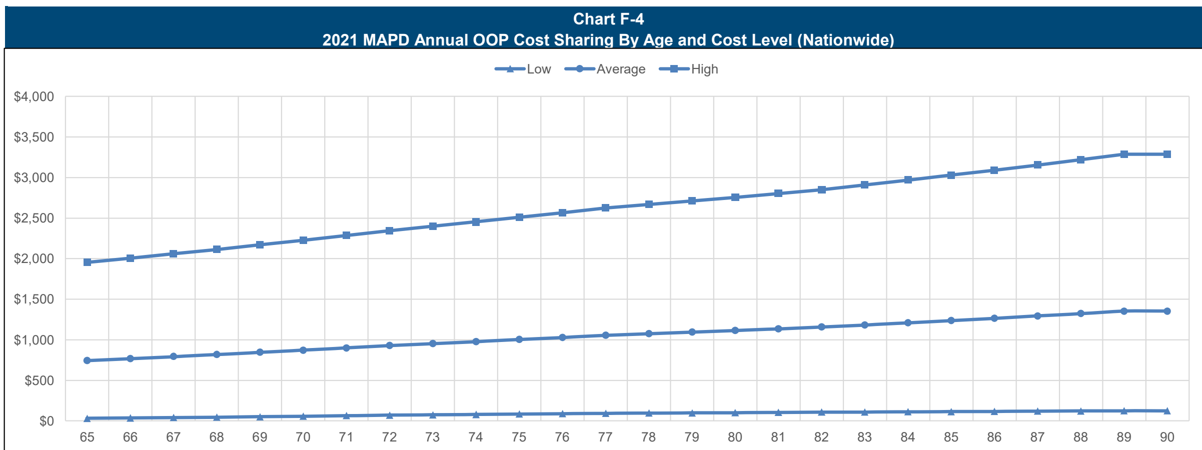


Chart F-4 shows the 2021 nationwide average annual OOP costs by age and cost level. The OOP costs do vary considerably by age and cost level.



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ANNUAL UPDATE

The following changes in Medicare eligible OOP costs apply from 2020 to 2021:

- Medicare Supplement Plan G: There was a 2.5% increase in the Medicare Part B deductible, from $198 in 2020 to $203 in 2021. This is the only OOP cost associated with this plan.
- Medicare Part D Standard Benefit: There was a 3.3% decrease in nationwide average OOP costs. The small change in plan design increases OOP costs slightly, offset by larger decreases as a result of lower claims in the experience period and changes in the underlying claims probability distribution.
- MAPD: There was a 33.5% decrease in nationwide average OOP costs. Improvements in the program and increased market competition are main drivers of lower premiums. Lower rates have led members to richer benefit plan offerings, in general. In addition, much of the change has to do with methodology changes, as discussed further in Section G.

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G. Methodology

LONG-TERM HEALTH CARE COST TREND

We used the long-term health care cost trend model updated annually by the Society of Actuaries at the following site:

https://www.soa.org/resources/research-reports/2020/getzen-model-update-2021-2030/

We utilized this model with the following assumptions:

- Annual increase in real GDP per capita: 1.5%
- Excess health care cost growth above the rate of increase in total GDP: 1.1%
- Share of GDP above which cost growth is assumed to meet resistance: 25.0%
- Year after which health care costs are limited to rate of growth in GDP: 2075
- Initial rates based on current market rates, transitioning to longer term rates over five years
- Portion of costs assigned to administration and other non-claim costs: 12%
- Real growth in administration and other non-claim costs: 0.75%

PRE-MEDICARE PREMIUMS

Premiums for pre-Medicare retirees are sourced from HIX Compare, a program of the Robert Wood Johnson Foundation, at the following site:

https://hixcompare.org/individual-markets.html

A weighted average of all Bronze plans available in each state was used, based on projected enrollment for 2021 from each carrier's Uniform Rate Review Template (URRT) submitted to CMS, as summarized by carrier/plan in the 2021 filings here:

https://www.cms.gov/CCIIO/Resources/Data-Resources/ratereview

Note that using a weighted average is a change from the unweighted, "straight" average used in prior years. For the nationwide average, a weighted average based on the projected enrollment in Bronze plans in each state was used.

PRE-MEDICARE OUT-OF-POCKET COSTS

We used the *Milliman Health Cost Guidelines™* to estimate the average statewide OOP costs by age, gender, and cost level (low, average, and high). Low cost is defined as the lowest 33% of individual claimants, and high cost is defined as the highest 33% of individual claimants.

MEDICARE ELIGIBLE PREMIUMS

For Medicare Supplement Plan G, the 2021 estimated premiums were developed using the *Milliman Health Cost Guidelines™* supplemented with internal Medicare claim data studies and state-specific loss ratio assumptions that average approximately 84.1% nationwide. A mix of 45.5% male and 54.5% female was used to develop a gender-neutral set of rates. Typical aging factors were also used, although, in practice, they do vary somewhat by carrier.

Note that we used Plan G rather than Plan F, since Plan F is no longer available to new retirees as of January 1, 2020[10].

[10] https://www.federalregister.gov/documents/2017/09/01/2017-18605/medicare-program-recognition-of-revised-naic-model-standards-for-regulation-of-medicare-supplemental (II.B)

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For a Part D standard plan, the 2021 premiums were developed by averaging premiums for Part D standard plans in each state. Premiums were obtained from the following site:

https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/index.html

Rather than an unweighted, “straight” average, as in prior years, a weighted average was calculated, based on the most recent (February 2021) enrollment by plan from CMS from here:

https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAdvPartDEnrolData/Monthly-Enrollment-by-Contract-Plan-State-County

The MAPD premiums and the Part B Premium Buy Down are available from public use files published by CMS. They represent a Non-Institutionalized Non-Medicaid (NINM) population.

MEDICARE ELIGIBLE OUT-OF-POCKET COSTS

For Medicare Supplement Plan G, the OOP cost is assumed to be $203 per year (the Medicare Part B deductible).

For the Part D standard plan, we used the *Milliman Health Cost Guidelines*™ to estimate the average statewide OOP costs by age, gender, and cost level (low, average, and high). Average cost is defined as the average of all claimants. Low cost is defined as the lowest 33% of individual claimants, and high cost is defined as the highest 33% of individual claimants. To better reflect expected costs for the target population of MoneyGuidePro®, we adjust expected costs to exclude the population of Part D beneficiaries that receive a Low-Income Subsidy (LIS).

For MAPD plans, we created adjustment factors for medical and pharmacy results to apply at the age band and health status level for an NINM population. We analyzed the highest-cost 33% of beneficiaries and the lowest-cost 33% of beneficiaries nationwide for each age band and compared their OOP costs to the overall average member OOP costs. This analysis was performed using the Centers for Medicare and Medicaid Services (CMS) Medicare 2017 5% Sample and Milliman’s 2018 Part D Consolidated Database (PDCD).

The MAPD OOP estimates also reflect the added value of supplemental benefits provided by many MAPD plans. These supplemental benefits are in addition to traditional Medicare Parts A, B, and D benefits. Examples of supplemental benefits include dental benefits, enhanced vision and hearing benefits, gym memberships, etc. The added value results in lower OOP costs than they otherwise would be.

In prior years, any supplemental benefits that were not available for a given plan were added to OOP costs under the assumption that individuals would be responsible to purchase additional coverage(s) in order to obtain the benefits. While this may be true, we determined this was inconsistent as the costs were often a significant portion of overall OOP costs and were not likewise being added to the other post-65 plan type (Med Supp Plan G plus Part D). Rather than add costs for supplemental benefits to both post-65 plan types, we believe it is most appropriate to consider only the medical and prescription drug OOP costs. The impact of supplemental benefits therefore only applies as described in the preceding paragraph (as a value added to MAPD plans when provided).

COVID-19

The COVID-19 pandemic has had a dramatic effect on health care costs over the course of the past year, and there remains substantial uncertainty regarding the future impact of COVID-19. The effect on 2021 premiums may vary significantly by carrier, and it is unclear what portion of the premium changes from 2020 to 2021 are due to COVID-19. While some premiums may have explicit COVID-19 adjustments, we have chosen not to make any other explicit adjustments to the projected premium or out-of-pocket costs in this analysis due to COVID-19. It is possible that the COVID-19 pandemic could have a material impact on the projected costs.

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H. Limitations and Qualification Statement

The services provided for this report were performed under the contract between Milliman and Envestnet® (PIEtech) dated November 16, 2017.

The information contained in this report has been prepared for Envestnet® to use in a financial planning system called MoneyGuidePro® that it licenses to financial advisors and financial services firms. The data and information presented may not be appropriate for any other purpose.

It is our understanding that this report may be released publicly. Any distribution of the information should be in its entirety. Any user of this report must possess a certain level of expertise in actuarial science and health care modeling so as not to misinterpret the information presented.

The projection of retiree health care costs is a complicated exercise, and actual results will vary from projections for a variety of reasons, including but not limited to changes in the following key factors:

1. Laws, regulations, and rules governing health care plans in the U.S., such as changes to the Medicare eligibility age
2. Market forces that impact health care costs and plans that are available to retirees
3. Changes in health status of retirees
4. External shocks, such as epidemics or trends in new diseases

All of these factors may have a material effect on retiree health care costs. Thus, it is important to continually monitor all of the factors influencing health care costs and modify projections as needed.

Milliman makes no representations or warranties regarding the contents of this report to third parties. Likewise, third parties are instructed that they are to place no reliance upon this report prepared for Envestnet® by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties. Other parties receiving this report must rely upon their own experts in drawing conclusions about the premium rates, out-of-pocket costs, trend rates, and other assumptions.

Milliman has developed certain models to estimate the values included in this report. The intent of the models was to estimate future expected premiums and out-pocket claims costs. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

The models rely on data and information as input to the models. We have relied upon certain data and information (as described in Section G) for this purpose and accepted it without audit. To the extent that the data and information provided is not accurate, or is not complete, the values provided in this report may likewise be inaccurate or incomplete.

The models, including all input, calculations, and output may not be appropriate for any other purpose.

We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The authors of this report, who are credentialed actuaries, are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses contained herein.

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