MILLIMAN WHITE PAPER

# Health Care Costs in Retirement – 2019 Update

## Prepared for PIEtech for use in MoneyGuidePro

March 25, 2019


Robert L. Schmidt, FSA, MAAA
Principal and Consulting Actuary

Suzanne Taranto, EA, MAAA
Principal and Consulting Actuary

Eric Walters, ASA, MAAA
Associate Actuary

Milliman

Milliman

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# A. Executive Summary

Milliman, Inc. (Milliman) was contracted by 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*TM 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+2.4% 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 2019 statewide average annual premiums for a 60-year old range from approximately $5,750 to $15,410 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 2019 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 zero to $7,810 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 2019 statewide average annual premiums vary from approximately $880 to $4,320 for Medicare Supplement Plan G, from $390 to $630 for a standard Part D plan, and from $70 to $1,400 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 2019, this analysis shows variation in nationwide average annual standard Part D plan out-of-pocket costs from $150 to $4,350. For MAPD plans, there is variation in nationwide average annual out-of-pocket costs, from $750 to $4,770. 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 $185, which we have assumed all individuals will reach. Note that we used Plan G rather than Plan F, since Plan F will no longer be available to new retirees beginning 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 2018 to 2019. Geographic variation by state may be different than the nationwide averages.

| Nationwide Average | 2018 | 2019 | % Increase/ (Decrease) |
|---|---|---|---|
| Pre-Medicare Premiums (60-yr old male) | $9,773 | $10,213 | 4.5% |
| Pre-Medicare OOP Costs (60-yr old male) | $3,609 | $ 3,650 | 1.1% |
| Medicare Eligible Premiums (70-yr old male) | | | |
| ▪ Med Supp Plan G | $1,643 | $1,757 | 6.9% |
| ▪ Part D Standard | $526 | $497 | (5.4%) |
| ▪ Medicare Part B | $134 | $136 | 1.1% |
| ▪ MAPD | $406 | $361 | (11.1%) |
| Medicare Eligible OOP Costs (70-yr old male) | | | |
| ▪ Med Supp Plan G | $183 | $185 | 1.1% |
| ▪ Part D Standard | $1,641 | $1,673 | 2.0% |
| ▪ MAPD | $1,687 | $1,677 | (0.6%) |

In addition to the costs noted above, the 2019 projections for long-term health care cost trend range from 0.15-0.20% per year lower than in 2018.

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

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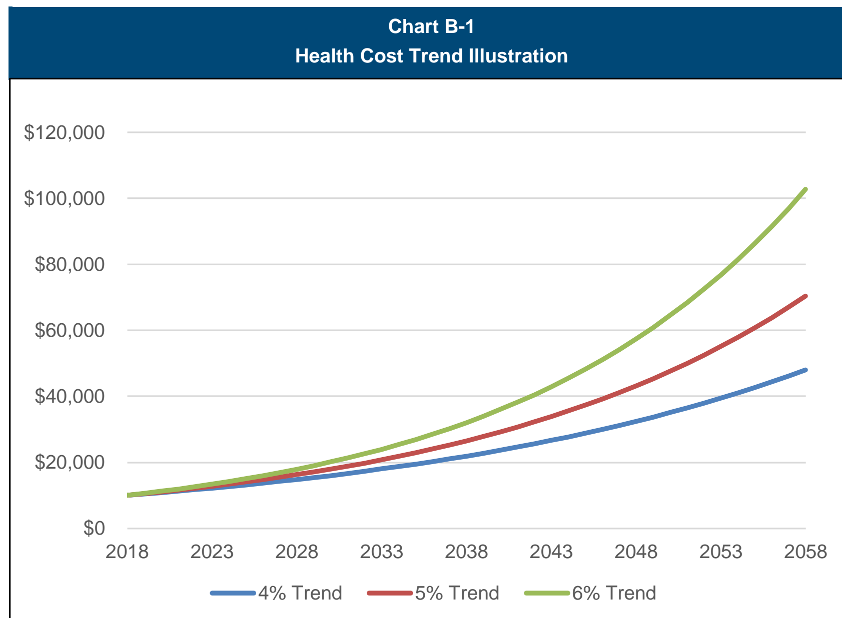
# B. Long-Term Health Care Cost Trend

## 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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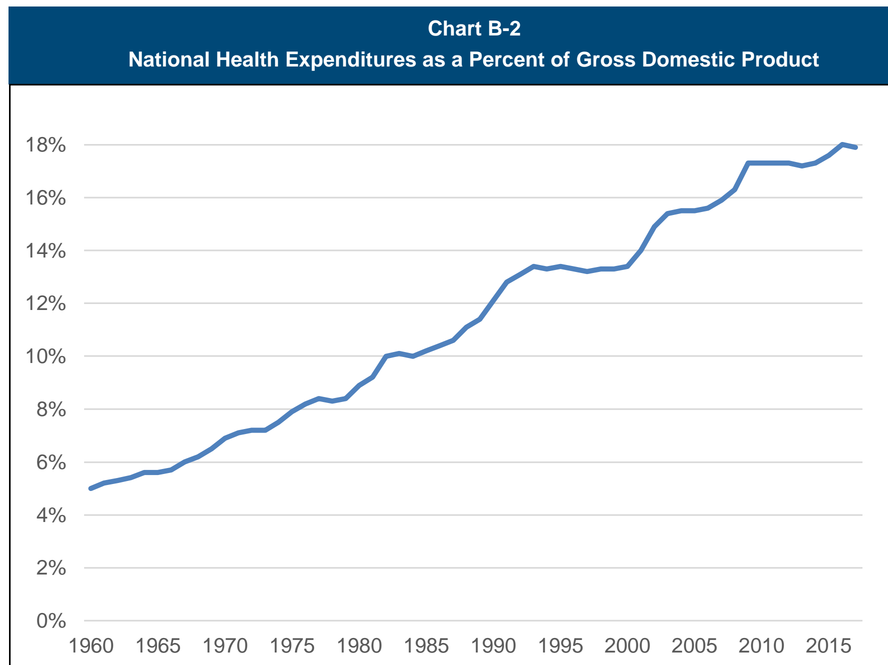
## U.S. HEALTH CARE SPENDING

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.

**Chart B-2**
**National Health Expenditures as a Percent of Gross Domestic Product**




This increase from 5.0% in 1960 to 17.9% in 2017 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 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 30.6% 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: 1.2%
- Share of GDP above which cost growth is assumed to meet resistance: 25.0%

[1] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/NHEGDP17.zip

[2] https://www.soa.org/research-reports/research-healthcare-trends/

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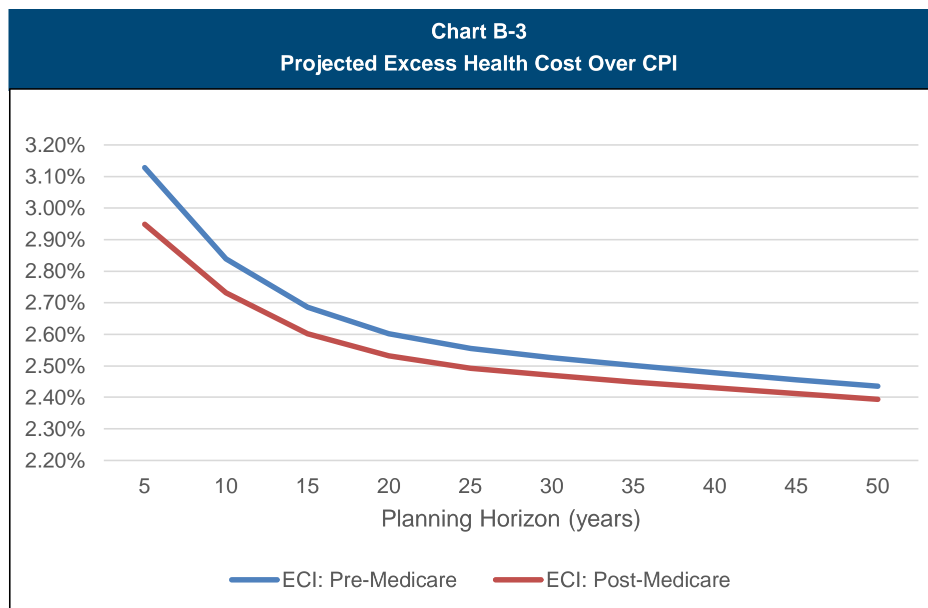
## RECOMMENDED HEALTH CARE COST TRENDS

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 2.4% 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

Decreases in short-term trend assumptions as well as slight reductions in the long-term assumptions for real GDP increase and excess health care cost increase above GDP have led to an overall decrease in projected health care cost trend. Compared to 2018, the 2019 projections range from 0.15-0.20% per year lower, and our recommendation for the example of a 40 year old planning on a 50 year horizon was reduced by 0.2% from 2.6% to 2.4% 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. Eleven states plus D.C. have a state-based exchange, and the other 39 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:

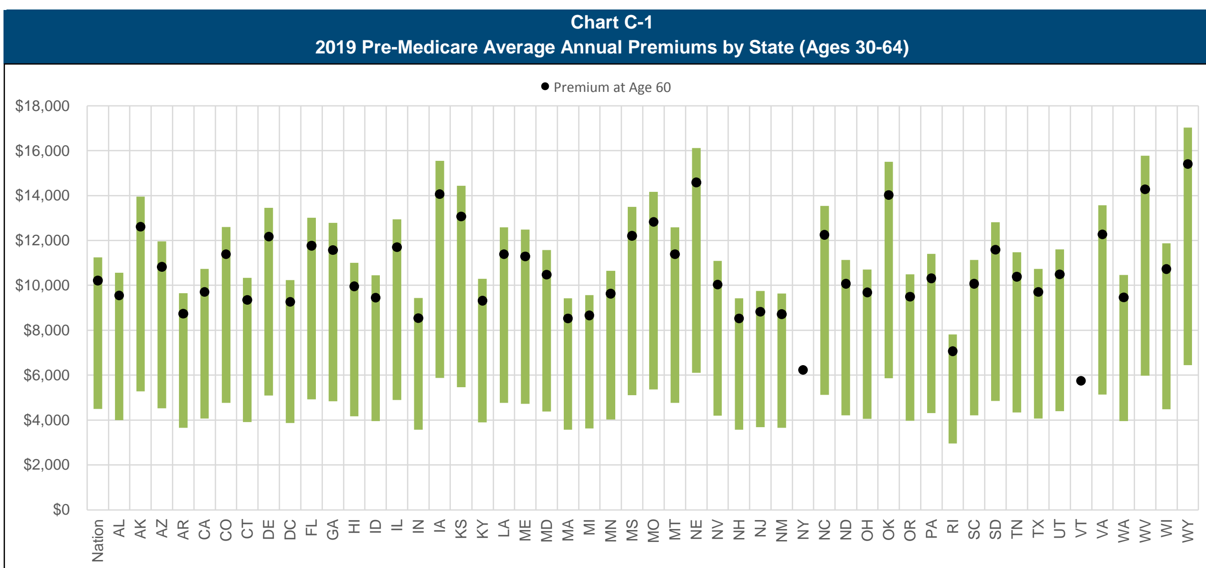
**Table C-1**
**Actuarial Values by Metal Level**

| 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 were used in 2018, and we have used a consistent approach in 2019.

### EXCHANGE PREMIUMS

Chart C-1 below shows the average 2019 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.

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## PREMIUM TAX CREDITS

Under current law, retirees with Household Income (HHI) between 100 percent and 400 percent 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 2018 HHI thresholds for the 48 contiguous states (which apply to APTC eligibility in 2019) are as follows:

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

| Persons in Household | HHI 100% FPL | HHI 400% FPL |
|---|---|---|
| **1** | $12,140 | $48,560 |
| **2** | $16,460 | $65,840 |
| **3** | $20,780 | $83,120 |
| **4** | $25,100 | $100,400 |

Source: https://aspe.hhs.gov/2018-poverty-guidelines (excerpted)

Note that household income is described further by the IRS[4].

The APTCs are designed to limit the premium cost of the second lowest cost Silver plan to the following percentages of HHI in 2019:

**Table C-3**
**2019 Premium Limits**
**Second Lowest Cost Silver Plan**

| Income Level | Percentage of HHI |
|---|---|
| **Up to 133% FPL** | 2.08% |
| **133 – 150% FPL** | 3.11 – 4.15% |
| **150 – 200% FPL** | 4.15 – 6.54% |
| **200 – 250% FPL** | 6.54 – 8.36% |
| **250 – 300% FPL** | 8.36 – 9.86% |
| **300 – 400% FPL** | 9.86% |

Source: https://obamacarefacts.com/2019-cost-assistance-obamacare/

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 the APTC amounts since those amounts vary based on HHI. However, it is important that retirees consider the impact of APTCs in their retirement expense projections.

Additionally, the status of the ACA is uncertain, given recent efforts in the U.S. Congress to change it. It is important for retirees to consider the potential lack of permanence of the APTCs in their long-term planning.

[4] 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 2018 to 2019, there was a 4.5% increase in the nationwide average premium for Bronze plans available on the ACA exchanges. Note that the Health Insurer Fee (HIF) was suspended in 2019 for one year. We assume the HIF will return for future years beginning in 2020, and the rates are 3% higher than they would have been without the inclusion of the HIF. This results in premiums that are more consistent with 2018 and provides a more stable long-term projection basis.

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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 of their 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<br>Bronze Plan Design | |
|---|---|
| **Feature** | **In-Network OOP** |
| **Annual Deductible** | $5,000 |
| **Retiree Coinsurance** | 40% |
| **Annual OOP Maximum** | $8,000 |

## 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.

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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.

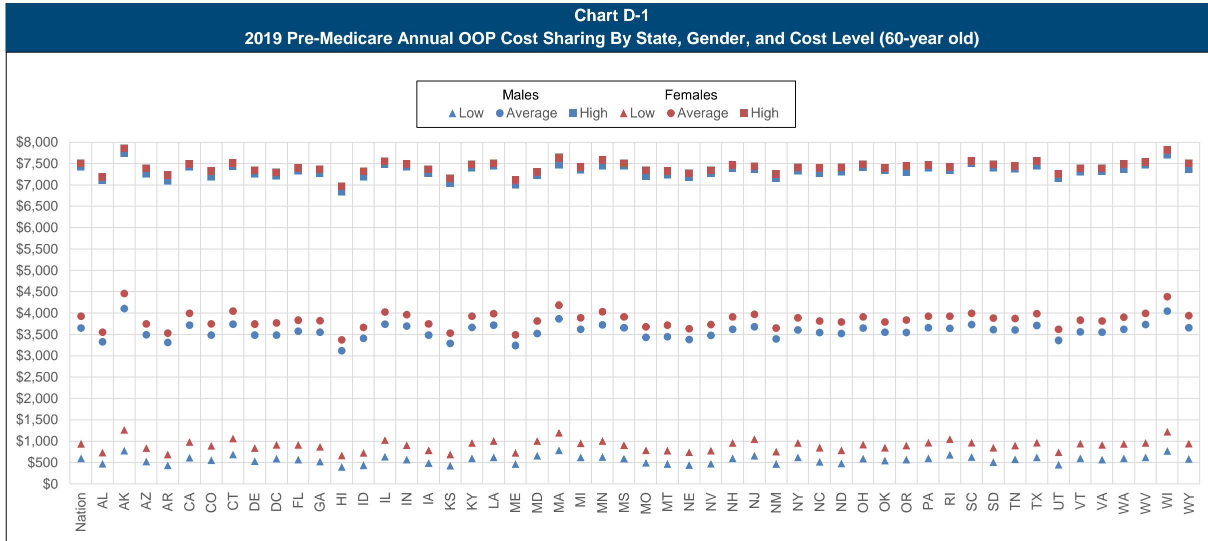
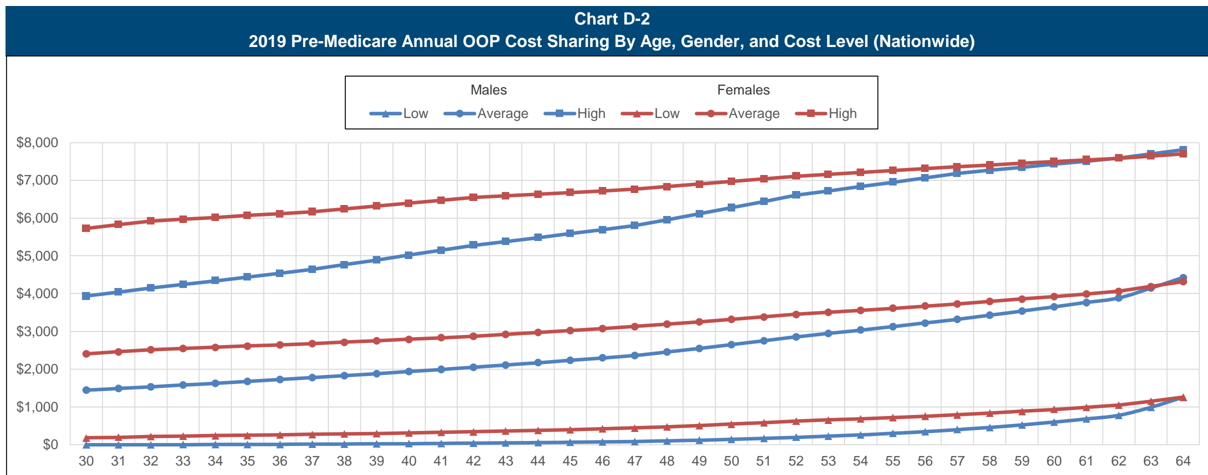



Chart D-2 shows the nationwide average annual OOP costs by age, gender, and cost level. The variance in OOP costs is significant, ranging from zero to $1,260 at the low cost level and from $1,440 to $4,430 at the average cost level. There is also variation at the high cost level, from $3,930 to $7,810, 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 $8,000 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. Retirees who purchase Bronze plans are not eligible for CSRs.

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 2019.

Additionally, the status of the ACA is uncertain, given recent efforts in the U.S. Congress to change it. It is important for retirees to consider the potential lack of permanence of the CSRs in their long-term planning.

## ANNUAL UPDATE

From 2018 to 2019, there was a 1.1% increase in nationwide average OOP costs based on the Bronze plan design described above. This is similar to the increase in premiums and reflects the increased cost sharing of the plan design in 2019, offset by moderate decreases in the modelled trend and utilization assumptions.

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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

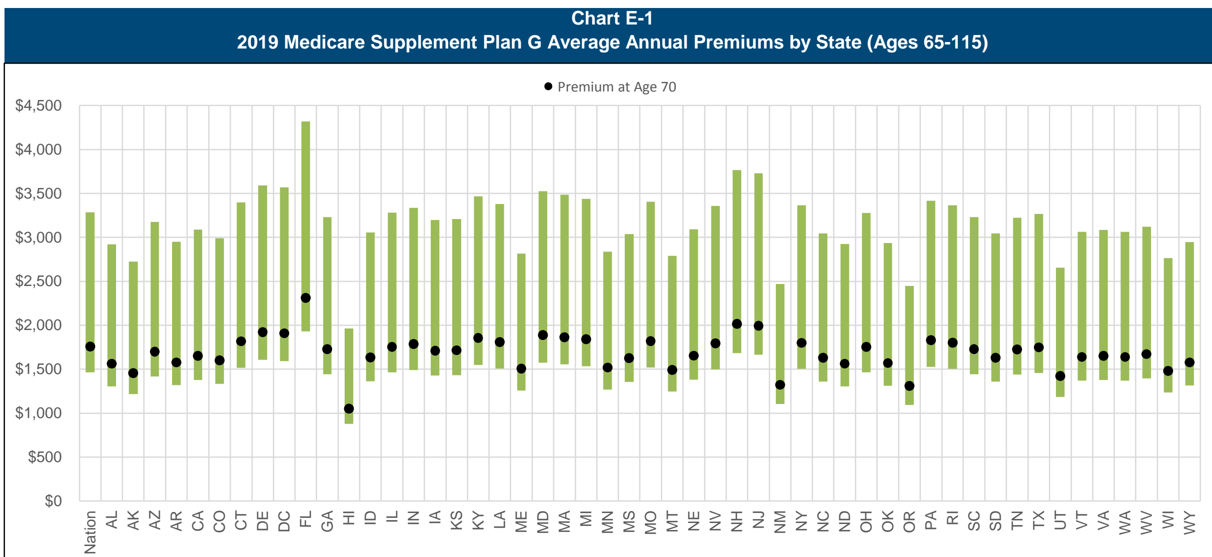
Both of these types are often coupled with prescription drug coverage as well.

## 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 2019 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**
**2019 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. However, variation due to insurance market conditions and different carrier pricing philosophies is not reflected in Chart E-1.

In addition to the plan premium, Plan G enrollees will pay the Medicare Part B premium. In 2019, the standard Part B monthly premium is $135.50. This amount may be increased based on income (up to $460.50 for 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 $135.50 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.

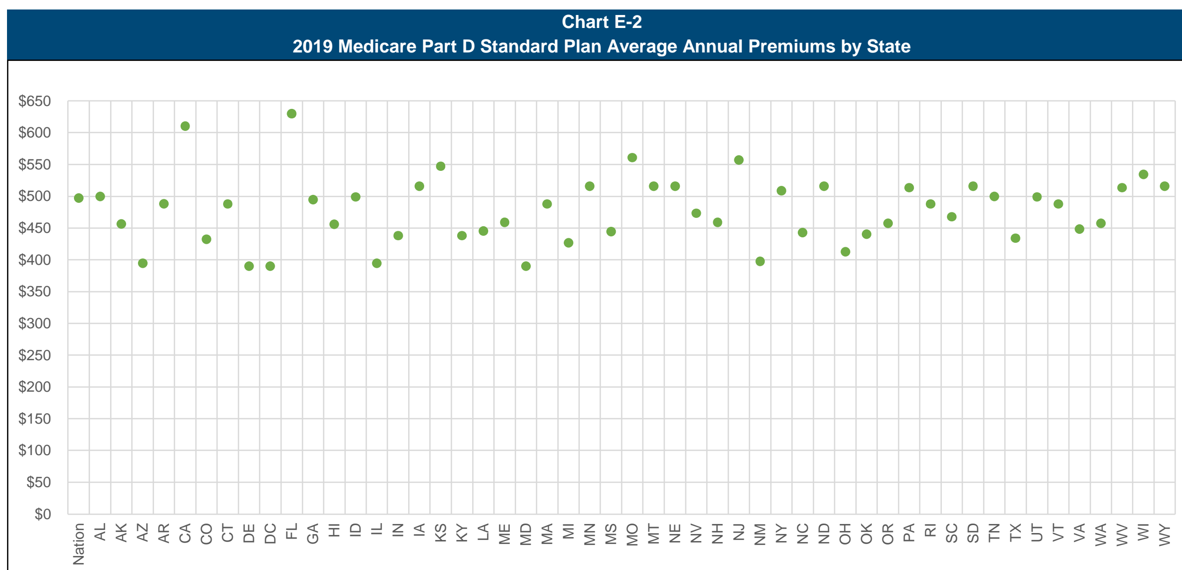
**Table E-1**
**2019 Medicare Part D Standard Benefit**

| Feature | Annual Retiree Cost |
|---|---|
| Deductible | $415 |
| Initial Coverage Limit | 25%, up to a coverage limit of $3,820 |
| Gap Amount ("Donut Hole") | Between $3,820 and $7,653.75 |
| Catastrophic Cost Threshold | $5,100 |
| Copay after Catastrophic Cost Threshold | Greater of 5% and $3.40 (Generic/Preferred)<br>Greater of 5% and $8.50 (Other Drugs) |

Source: http://www.milliman.com/uploadedFiles/insight/Periodicals/cab/CAB_18-3_2019MCareCOLA.pdf

Chart E-2 below shows the 2019 average annual premiums for standard Part D coverage. The chart shows that there is considerable variation by state, from a low annual premium of $390 to a high of nearly $630. Note that Medicare Part D premiums do not vary by age or gender.

**Chart E-2**
**2019 Medicare Part D Standard Plan Average Annual Premiums by State**

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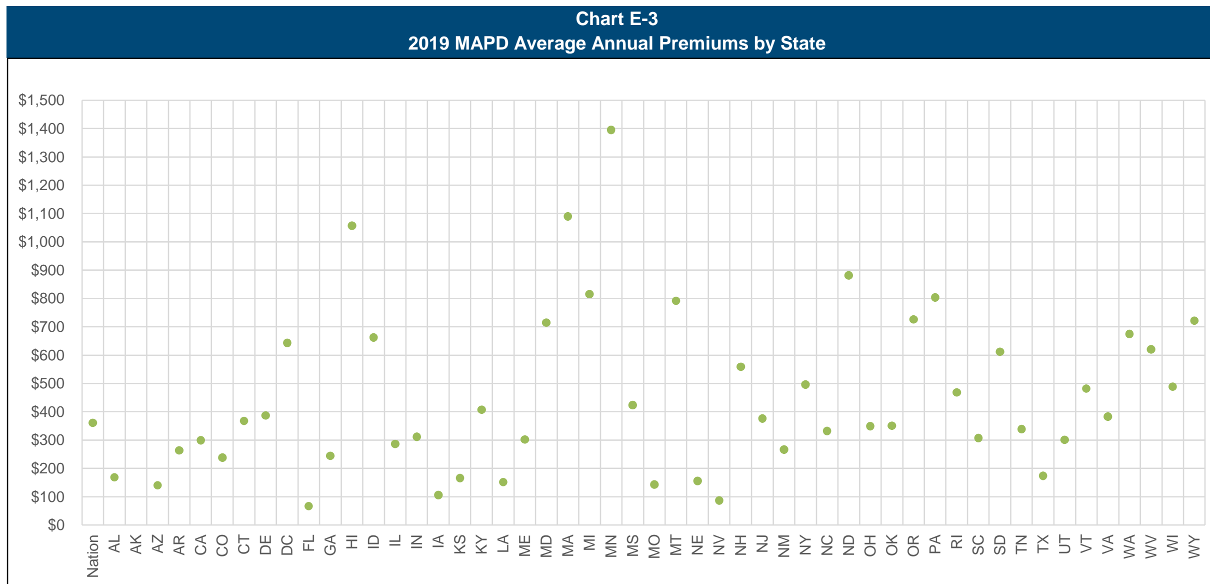
## MEDICARE ADVANTAGE PLANS

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**
**2019 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 2019, the standard Part B monthly premium is $135.50. This amount may be increased based on income (up to $460.50 for 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 increases in Medicare eligible premiums apply from 2018 to 2019:

- Medicare Supplement Plan G: There was a 6.9% increase in nationwide average premium at age 70. This increase represents overall trend on the Medicare population plus an increase in the assumed administrative costs as a percent of premium.
- Medicare Part D Standard Benefit: There was a 5.4% decrease in nationwide average premium. This reflects both market competition and an increase in pharmacy manufacturer rebates. We assume the HIF will return in future years beginning in 2020, and the rates are 3.4%[5] higher than they would have been without the inclusion of the HIF. This results in premiums that are more consistent with 2018 and provides a more stable long-term projection basis.
- Medicare Part B Premium: There was a 1.1% increase in the nationwide premium from $134 in 2018 to $135.50 in 2019.
- MAPD: There was an 11.1% decrease in the nationwide average premium. This was driven, in part, by the one year elimination of the HIF. Additional drivers include lower renewal rates, leading consumers to select even lower cost plans, and also some refinements in methodology to exclude certain plan types that are typically not applicable to the population that will be utilizing this data.

[5] This was the result of increasing the nationwide Part D Standard Benefit CMS revenue by 2% and applying the resulting dollar amount to the nationwide average premium.

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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 $185 in 2019. For simplicity, we assume that all retirees will have OOP costs of $185.

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 2019 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.

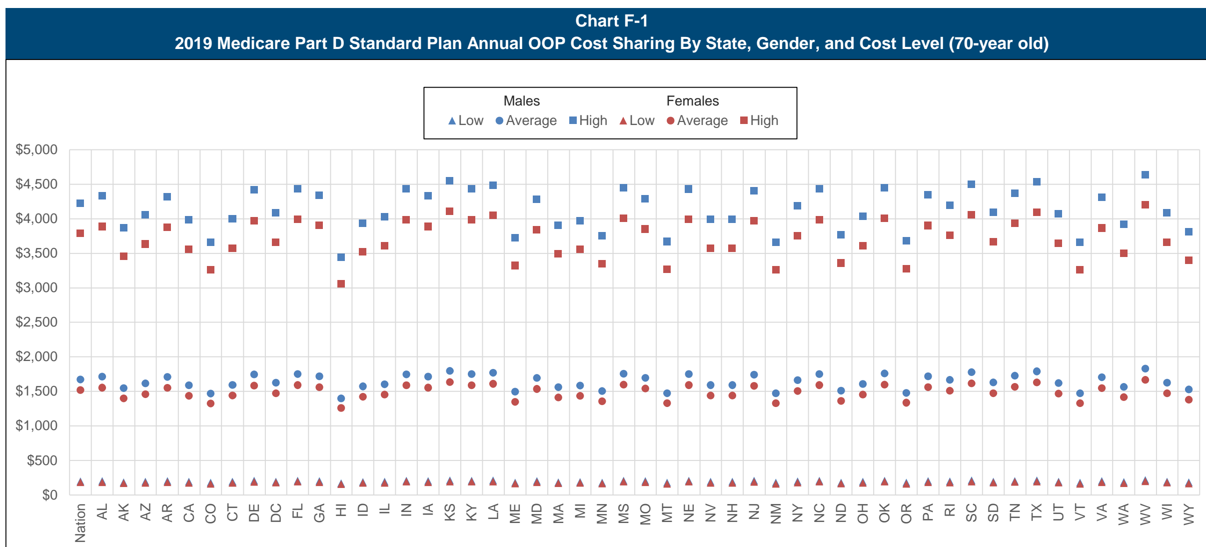


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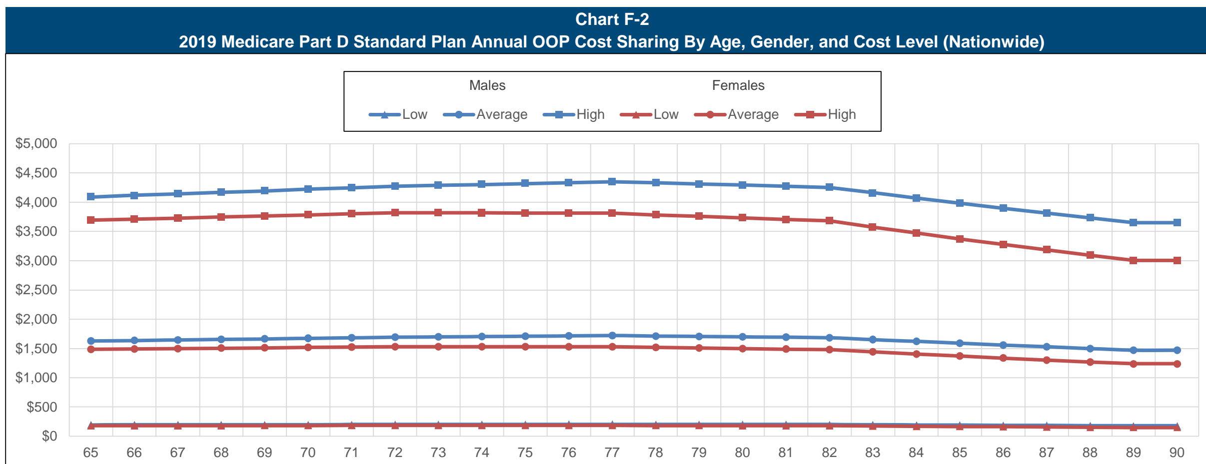
Chart F-2 shows the 2018 nationwide average annual OOP costs by age, gender, and cost level. The OOP costs do not vary much by age, but they vary considerably by cost level (low, average, high).

Chart F-2
2019 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, which is not limited as there still exists cost sharing above the Maximum OOP Threshold noted in the design in Section E.

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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.

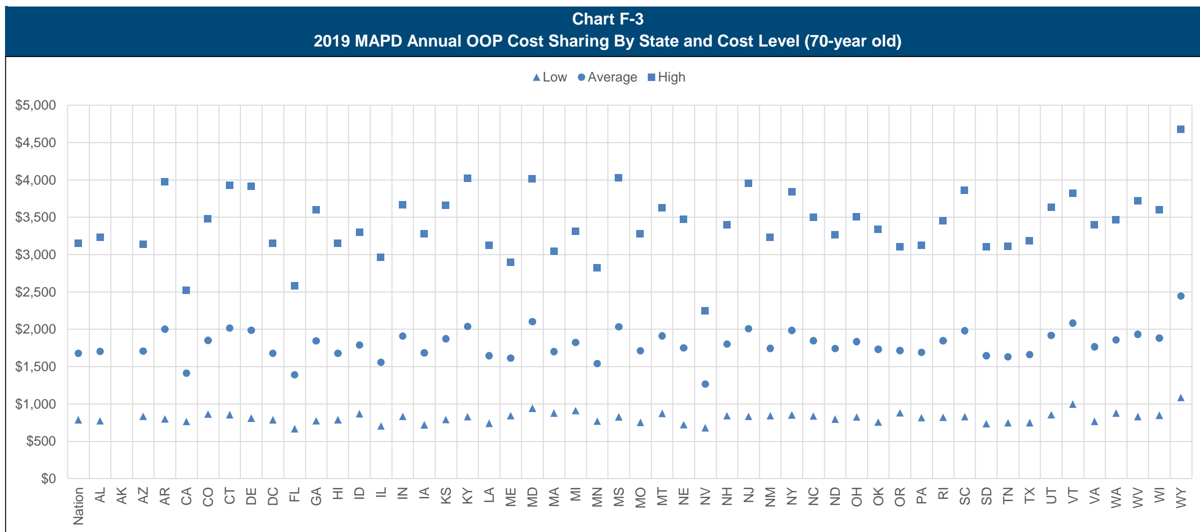
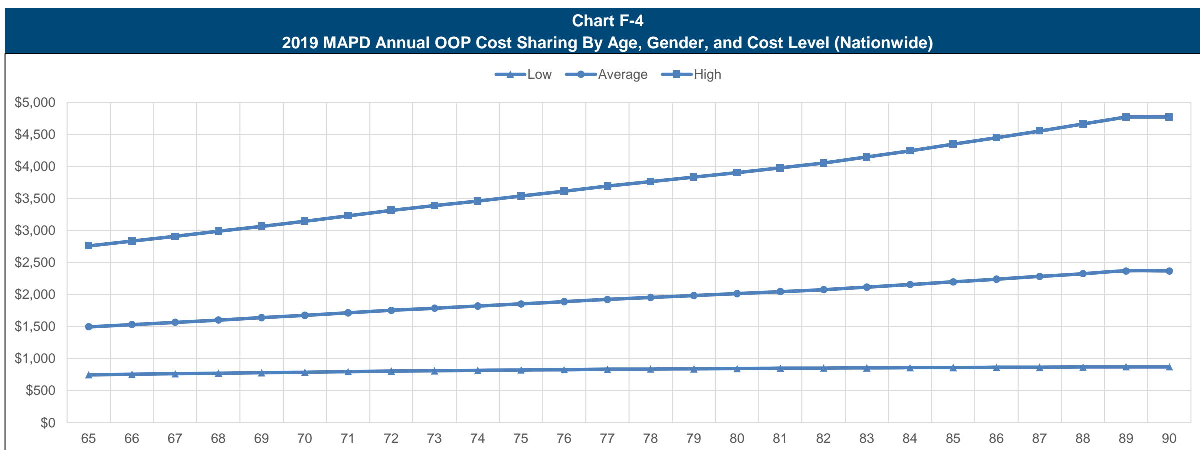



Chart F-4 shows the 2019 nationwide average annual OOP costs by age, gender, and cost level. The OOP costs do vary considerably by age and cost level.

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## ANNUAL UPDATE

The following increases in Medicare eligible OOP costs apply from 2018 to 2019:

- Medicare Supplement Plan G: There was a 1.1% increase in the Medicare Part B deductible, from $183 in 2018 to $185 in 2019. This is the only OOP cost associated with this plan.
- Medicare Part D Standard Benefit: There was a 2.0% increase in nationwide average OOP costs. This is a result of improved manufacturer rebates and continued competition among plans.
- MAPD: There was a 0.6% decrease in nationwide average OOP costs, which includes the assumption that the HIF will return in future years beginning in 2020[6]. This assumption is consistent with 2018 and provides a more stable long-term projection basis. The HIF is included in OOP costs rather than premiums, anticipating that plan designs will be adjusted to account for the return of the fee rather than increased premiums.

[6] We increased the nationwide risk adjusted MAPD benchmark CMS revenue by 2% and applied the resulting dollar amount to the nationwide average OOP costs. Due to leveraging, this resulted in OOP costs that are 12.5% higher than what they would have been without inclusion of the HIF.

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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 (SOA) at the following site:

https://www.soa.org/research-reports/research-healthcare-trends/

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: 1.2%
- 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: 15%
- Real growth in administration and other non-claim costs: 0.75%

## PRE-MEDICARE PREMIUMS

Premiums for pre-Medicare retirees are sourced from public use files available from the Centers for Medicare and Medicaid Services (CMS) at the link below.

https://www.cms.gov/cciio/resources/data-resources/marketplace-puf.html

For the 39 states that use the federal exchange platform, 2019 Bronze rates were available. For the other states and District of Columbia, the 2018 Bronze rates were used, with trend applied to 2019 based on information from the following site:

https://www.kff.org/health-costs/issue-brief/how-aca-marketplace-premiums-are-changing-by-county-in-2019/

An unweighted average of all Bronze plans available in each state was used. For the nationwide average, a weighted average based on the pre-Medicare population of each state was used. As described above, although 2019 premiums do not actually include the HIF (due to the moratorium) we have adjusted the premiums upward to include the HIF.

## 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 2019 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 78.5% 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 will no longer be available to new retirees beginning January 1, 2020[7].

[7] 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 2019 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

As described above, although 2019 Part D premiums do not actually include the HIF (due to the moratorium) we have adjusted the premiums upward to include the HIF.

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 $185 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.

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 2016 5% Sample and Milliman's 2017 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.

As described above, we have adjusted the 2019 MAPD OOP costs to include the HIF, even though there is a moratorium on the HIF in 2019.

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# H. Limitations and Qualification Statement

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

The information contained in this report has been prepared for PIEtech to use in a financial planning system called MoneyGuidePro (MGP) 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 PIEtech 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.

In performing this analysis, we relied on data and other information from sources described above. We have not audited or verified this data and other information. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. 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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**CONTACT**

**Robert Schmidt**
robert.schmidt@milliman.com

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