

MILLIMAN RESEARCH REPORT

# 2020 Milliman Medical Index

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## Executive summary

In 2020, the cost of healthcare for a hypothetical American family of four covered by an average employer-sponsored preferred provider organization (PPO) plan is \$28,653, according to the Milliman Medical Index (MMI).<sup>1,2</sup>

### KEY FINDINGS OF THE 2020 MMI INCLUDE:



**Cost increases have continued to be mostly “moderate.”** For an average person, healthcare cost grew by approximately 4.1% from 2019 to 2020. That rate is roughly consistent with rates over the past five years, and is definitely moderate relative to rates from 10 years ago, which were twice as high. Nevertheless, the cost increases continue to outpace gross domestic product (GDP) growth, which is roughly half the rate of healthcare cost growth.<sup>3</sup> Recently, hospital costs have taken center stage, growing more quickly than costs for other services, climbing approximately 15% over the past three years, versus 10% for all other services combined.



**COVID-19 will have big impacts on healthcare costs in 2020.** That much is certain. However, the impacts will manifest as some very big cost increases (for direct COVID-19 care), and some very big cost decreases (for deferred and forgone services). On average, the net outcome is still highly uncertain. We know, for example, that COVID-19 testing and treatment costs are new in 2020. However, these amounts may be dwarfed by the spending reductions resulting from deferrals of care. At this time, there is tremendous uncertainty around the net effect on costs. Therefore, in this year’s MMI report we have not made explicit adjustments to our 2020 cost projections to reflect COVID-19 impacts.



**For the first time, this year’s report looks at the effects of managed care on costs.** Since its first edition in 2005, the MMI has focused on “what is”—namely, what employer-sponsored healthcare costs are on average nationwide. Very little time has been spent discussing “what could be”—what could healthcare costs be under an ideal system? Milliman’s research indicates that effective use of managed care principles could reduce overall healthcare costs for the MMI family by approximately 25%, which would lower the family’s annual costs from \$28,653 to \$21,490.

## What the MMI represents and how it is calculated

Since its first publication in 2005, the Milliman Medical Index (MMI) has proven a valuable measure of average healthcare costs and changes in those costs for a hypothetical “typical American family of four.” We have always defined that family as a male age 47, a female age 37, a child age 4, and a child under age 1. In reality, family compositions vary, and families can have very different levels of healthcare expenses. This variation results from differences in family size, the family members’ ages and genders, where they live, their income levels, their unique health conditions, and a host of other variables.

- 1 The Milliman Medical Index is an actuarial analysis of the projected total cost of healthcare for a hypothetical family of four covered by an employer-sponsored preferred provider organization (PPO) plan. Unlike many other healthcare cost reports, the MMI measures the total cost of healthcare benefits, not just the employer’s share of the costs, and not just premiums. The MMI only includes healthcare costs. It does not include health plan administrative expenses or insurance company profit loads.
- 2 As discussed in the following section of this report, the 2020 MMI dollar amount is not directly comparable to the amount published in last year’s MMI report. This year’s figure and last year’s figure differ due to the availability of more current cost information, in addition to the one-year impact of healthcare cost inflation.
- 3 Real GDP increased by approximately 2.3% per year over the five-year period ending in 2019. See <https://www.bea.gov/data/gdp/gross-domestic-product> (accessed May 8, 2020).



While the “typical family of four” construct has allowed us to maintain consistency across the years, we recognize that variations from the averages can be significant and there is not a single typical American family. To give our readers more insight into these cost variations, last year we introduced an expanded, interactive version of the MMI that allows readers to explore how costs may vary for different types of families.<sup>4</sup> While this does not capture all cost variations by individual (such as those driven by different health conditions), it does capture significant features that drive expected healthcare costs.

For readers who are interested in our traditional MMI number, the cost for our hypothetical family of four is \$28,653 in 2020. The 2020 cost for an average person is \$6,553. These figures are 0.9% and 3.2% higher, respectively, than the 2019 figures we published last year. However, the changes reflect more than just our estimates of healthcare cost growth from 2019 to 2020, as shown in Figure 1. The changes in estimated costs result from multiple causes, including (1) updates in the health insurance claims data on which the costs are based, (2) updated estimates of cost changes from 2018 to 2019 and 2020, and (3) updated research on how costs for the MMI’s illustrative family of four differ from those of an average person.

To address the issues noted, we evaluate healthcare cost growth each year with the most current information available. Figure 1 illustrates our best estimate of annual healthcare cost growth for an average person by major healthcare service category reported in the MMI. We find that healthcare costs are increasing in 2020 by 4.1% on average, varying from 2.7% for inpatient services to 5.8% for outpatient facility services.

This year’s MMI costs are grounded in 2017 and 2018 health insurance claims data from approximately 62 million people covered by employer group plans. The costs for 2019 and 2020 are estimated using the 2018 costs, projected forward with Milliman’s estimates of healthcare cost increases over those years. As complete data on 2019 and 2020 costs become available over the next two years, we will restate our best estimates of those costs.

**FIGURE 1: ESTIMATED HEALTHCARE COST GROWTH RATES FROM 2019 TO 2020 FOR AN AVERAGE PERSON**

INPATIENT	2.7%
OUTPATIENT	5.8%
PHYSICIAN	3.5%
PHARMACY	3.9%
OTHER	3.5%
TOTAL	4.1%

Our annual restatements can affect cost estimates differently for the MMI family of four and an average person. Specifically, healthcare cost growth rates vary by type of service, and the MMI family of four uses a mix of services that is different from the average person. For example, as shown in Figure 2, the distribution of healthcare costs between inpatient and outpatient facility care is approximately the opposite for the family of four versus an average person. Yet the healthcare cost growth for outpatient services has roughly doubled that of inpatient services between 2017 and 2020. Therefore, over that time

<sup>4</sup> Visit the MMI interactive tool to build your own family and understand their healthcare costs: [milliman.com/mmifamilies](https://milliman.com/mmifamilies)

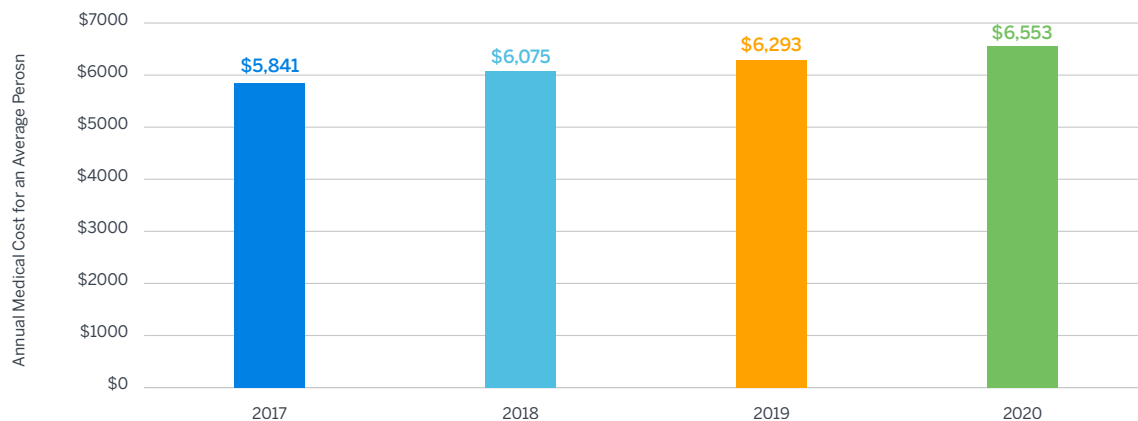
period, the average person has tended to experience higher annual cost growth rates than the family of four. Because of this complexity in discussing average growth rates and how they vary from one population to another, throughout the remainder of this report, unless noted otherwise, all data on costs and cost growth are expressed only in the context of an average person.

**FIGURE 2: DISTRIBUTION OF HEALTHCARE COSTS BY TYPE OF SERVICE**

	MMI FAMILY OF FOUR	AVERAGE PERSON
INPATIENT	31%	18%
OUTPATIENT	20%	31%
PHYSICIAN	35%	28%
PHARMACY	11%	20%
OTHER	2%	2%
	100%	100%

Note: Percentages shown might not total 100% due to rounding.

**FIGURE 3: MILLIMAN MEDICAL INDEX (MMI) FOR AN AVERAGE PERSON**



## COVID-19

The COVID-19 pandemic has thrust the U.S. healthcare system into an unprecedented period of change. The virus highlights the degree of heterogeneity in our healthcare system, with some resources facing capacity constraints and others experiencing historic declines. Many acute care facilities, especially those with intensive care unit (ICU) beds and ventilators, have experienced capacity strains. At the same time, some healthcare workers are facing layoffs or furloughs due to the decline in nonessential healthcare services. In fact, nearly half of the 4.8% decline in first quarter 2020 GDP was attributable to a reduction in healthcare services.<sup>5</sup>

This change creates a significant degree of uncertainty around 2020 healthcare costs. Treatment and testing for an influx of patients increase costs, while deferred and eliminated care reduce costs. The infection rate, including the number of potential viral waves, will be a key driver of treatment and testing costs in 2020. The duration of care deferral also affects healthcare costs because care eliminated or deferred to 2021 reduces 2020 healthcare costs. We currently do not know the eventual infection rate or the duration of care deferral, both of which are key drivers of 2020 healthcare costs.

<sup>5</sup> Bureau of Economic Analysis (April 29, 2020). Gross Domestic Product, First Quarter 2020 (Advance Estimate). Retrieved May 8, 2020, from [https://www.bea.gov/system/files/2020-05/gdp1q20\\_adv.pdf](https://www.bea.gov/system/files/2020-05/gdp1q20_adv.pdf).

A recent Milliman paper projected a \$75 billion to \$575 billion net reduction in 2020 healthcare costs due to the pandemic.<sup>6</sup> There are two important differences between this estimate and the MMI. The COVID-19 estimate is a total dollar amount for commercial, Medicare, and Medicaid payers. The MMI is a per-person measure of healthcare costs for a family covered by employer-sponsored insurance (ESI). The COVID-19 estimate reflects a shift in individuals from ESI to Medicaid as they lose their ESI coverage. The MMI describes only an ESI population, which is roughly only one-half of the population included in our COVID-19 cost estimates. For more information on Milliman's COVID-19 research, please refer to our website.<sup>7</sup>

The wide range of the COVID-19 estimates illustrates the amount of uncertainty created by the pandemic. Given this uncertainty, we have not explicitly adjusted the 2020 MMI to reflect the impact of COVID-19 on healthcare costs.

## What would healthcare costs look like in an ideal system?

COVID-19 has shone a bright light on the heroism of our healthcare workers. But it has also reminded us of our healthcare system's limitations. Since its first edition in 2005, the MMI has focused on “what is”—namely, what employer-sponsored healthcare costs are on average nationwide. Very little time has been spent discussing “what could be”—what healthcare costs could be under an ideal system.

Part of the difficulty in answering this question is there are various options and a variety of opinions on what constitutes an “ideal” healthcare system. One commonly accepted framework for improving managed healthcare comes from the Institute for Healthcare Improvement's “Triple Aim,”<sup>8</sup> which seeks to simultaneously improve three different components:

- Per-member cost of healthcare
- Health of the overall population
- Quality and satisfaction of patient experience

All three components are important, but cost of healthcare is the easiest to track and therefore garners the most attention. The United States spends far more on healthcare per person than similarly situated nations and, as a percentage of GDP, this gap has increased over the past 40 years.<sup>9</sup> Despite this, the United States does not have better outcomes than its peers—with the lowest life expectancy, the highest chronic disease burden, and among the highest rates of hospitalizations due to preventable causes as compared to its peers in the Organisation for Economic Co-operation and Development (OECD).<sup>10</sup> This dichotomy has led to much analysis, including a current effort led by the Society of Actuaries and Kaiser Family Foundation titled “Initiative 18|11,”<sup>11</sup> which is focused on finding ways to reduce the cost of healthcare.

6 Rogers, H., Mills, C., & Kramer, M.J. (April 2020). Estimating the Impact of COVID-19 on Healthcare Costs in 2020. Milliman White Paper. Retrieved May 8, 2020, from <https://milliman-cdn.azureedge.net/-/media/milliman/pdfs/articles/estimating-the-financial-impact-covid19.ashx>.

7 See <https://us.milliman.com/en/health/coronavirus-covid-19>.

8 Institute for Healthcare Improvement. Initiatives: The IHI Triple Aim. Retrieved May 8, 2020, from <http://www.ihl.org/Engage/Initiatives/TripleAim/Pages/default.aspx>.

9 Health System Tracker (December 7, 2018). Exhibit: Since 1980, the gap has widened between U.S. health spending and that of other countries. Retrieved May 8, 2020, from [https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries/#item-since-1980-the-gap-has-widened-between-u-s-health-spending-and-that-of-other-countries\\_\\_2018](https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries/#item-since-1980-the-gap-has-widened-between-u-s-health-spending-and-that-of-other-countries__2018).

10 Tikkanen, R. & Abrams, M.K. (January 30, 2020). U.S. Health Care From a Global Perspective, 2019: Higher Spending, Worse Outcomes? Commonwealth Fund. Retrieved May 8, 2020, from <https://www.commonwealthfund.org/publications/issue-briefs/2020/jan/us-health-care-global-perspective-2019>.

11 Society of Actuaries. Initiative 18|11: What Can We Do About the Cost of Health Care? Retrieved May 8, 2020, from <https://www.soa.org/programs/initiative-1811/>.

Optimal care management practices represent one path forward; Milliman has been publishing well managed benchmarks in our Health Cost Guidelines™ (HCGs) publications for almost three decades. The HCGs identify a number of characteristics commonly associated with “well managed care,” including:

- Evidence-based decision making with providers, including automated decision support
- Incentives for providers to consider resources wisely
- The availability and coordinated usage of lower-cost treatment alternatives
- Appropriate use of technology in care

Milliman’s research indicates that effective use of managed care principles could reduce overall healthcare costs for the MMI family by approximately 25%, which would lower the family’s annual costs from \$28,653 to \$21,490. But how should we look at potential savings measures? Can all healthcare elements even be well managed at the same time? Some suggest that saving healthcare costs is like squeezing a balloon—it can be compressed in one location, but other areas expand to compensate.

Health economics scholar Uwe Reinhardt would regularly opine that “It’s the Prices, Stupid”<sup>12</sup> when comparing U.S. health spending against others. Price continues to be the largest driver of trend changes today. Of course, “price” is more than just “price”—it’s not merely that the same thing (such as an x-ray) is costing more each year; it’s that technology is becoming more advanced and that technologically progressive (and often more expensive) alternatives are becoming more prevalent. We also see additional services and ancillary supplies bundled into the same case or stay (effectively masking utilization effects as price).

However, just because utilization trends are lower than unit cost (price) trends, this does not mean that current utilization rates are necessarily optimal. Utilization rates vary widely from region to region, even after adjusting for demographics and morbidity. For instance, Milliman’s research shows significant variation within inpatient hospital utilization patterns, with some cities having more than twice as many inpatient hospital days per capita as other cities.

High-cost services (such as inpatient hospital days) typically garner the most attention when looking to reduce healthcare costs, but a recent Health Affairs article<sup>13</sup> finds that the greatest contribution to unnecessary health spending instead comes from low-cost, high-volume services. These services include lab tests and imaging for low-risk patients undergoing low-risk procedures and other diagnostic tests performed in routine situations. The Washington Health Alliance produces an annual report, “First, Do No Harm,”<sup>14</sup> which exhibits a similar conclusion. This presents a fundamental challenge to our health system, as not only do healthcare professionals in a fee-for-service (FFS) environment have financial incentives to offer these sorts of procedures, but also the overuse of diagnostic tests may insulate providers against malpractice risk down the road.

All is not lost, however—the topic of healthcare system efficiency has received a lot of attention recently during the COVID-19 pandemic. Historically, telemedicine and virtual clinics have struggled to gain traction within our healthcare delivery system, but a desire to control viral transmission has led to technology delivering care in a new way for many types of care.

12 See, for example, the research article “It’s The Prices, Stupid: Why The United States Is So Different From Other Countries,” available at <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.22.3.89>.

13 Mafi, R., Bortz, D., & Hazel, F. (October 2017). Low-Cost, High-Volume Health Services Contribute the Most to Unnecessary Health Spending. Health Affairs 36.10, pp. 1701-1704.

14 Washington Health Alliance. First, Do No Harm. Retrieved May 8, 2020, from <https://wahealthalliance.org/alliance-reports-websites/alliance-reports/first-do-no-harm/>.

At the same time, the Centers for Medicare and Medicaid Services (CMS) has driven the need for providers to have “skin in the game” with the Medicare Shared Savings Program (MSSP), giving additional incentives to move away from fee-for-service transactions and toward alternative payment models (APMs), including in employer-sponsored insurance and even Medicaid programs.<sup>15</sup>

## Components of cost

The MMI breaks up healthcare costs into five categories of services:

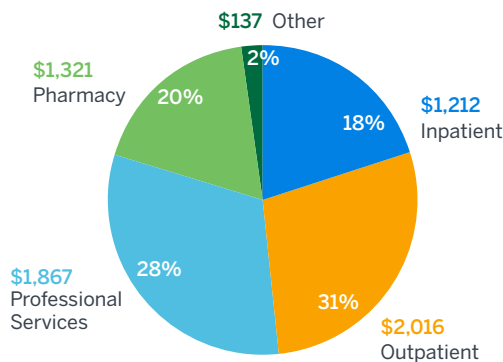
1. Inpatient facility care
2. Outpatient facility care
3. Professional services
4. Pharmacy
5. Other services

As shown in Figure 4, for the MMI’s average person covered by an employer-sponsored PPO plan, approximately one-half of healthcare expenses are for hospital services, including both inpatient and outpatient. Emerging data from 2019 suggests that total hospital expenses (inpatient plus outpatient) increased by 3.8% from 2018 to 2019. In 2020, we are projecting that the increase in hospital expenses will jump up to 4.6%. As indicated earlier, these numbers have not been adjusted to account for COVID-19.

Hospital growth typically leads to more expenditures for hospital services. With the U.S. population continuing to age and the economy remaining relatively strong (up until the onset of the COVID-19 pandemic), hospitals have continued to invest in expanding their facilities and services.

For the average person, approximately 18% of total expenses are attributable to inpatient hospital services, as shown in Figure 4. However, inpatient hospital expenses for very young people are higher, due to complications associated with birth and infancy. For the MMI’s hypothetical family of four, which includes a child age less than 1, approximately 31% of total expenses are attributable to inpatient hospital services. These variations are illustrated in the updated MMI interactive tool, which also gives users the option of exploring cost allocations for other individual and family constructs.

**FIGURE 4: 2020 MMI COMPONENTS OF SPENDING FOR AN AVERAGE PERSON**



Percentages shown do not total 100% due to rounding.

15 Hunt, Z., Johnson, R.L., & Larson, A. (January 29, 2019). Seven Key Challenges for Medicaid States Considering Alternative Payment Models. Milliman White Paper. Retrieved May 8, 2020, from <https://www.milliman.com/en/insight/seven-key-challenges-for-medicaid-states-considering-alternative-payment-models>.

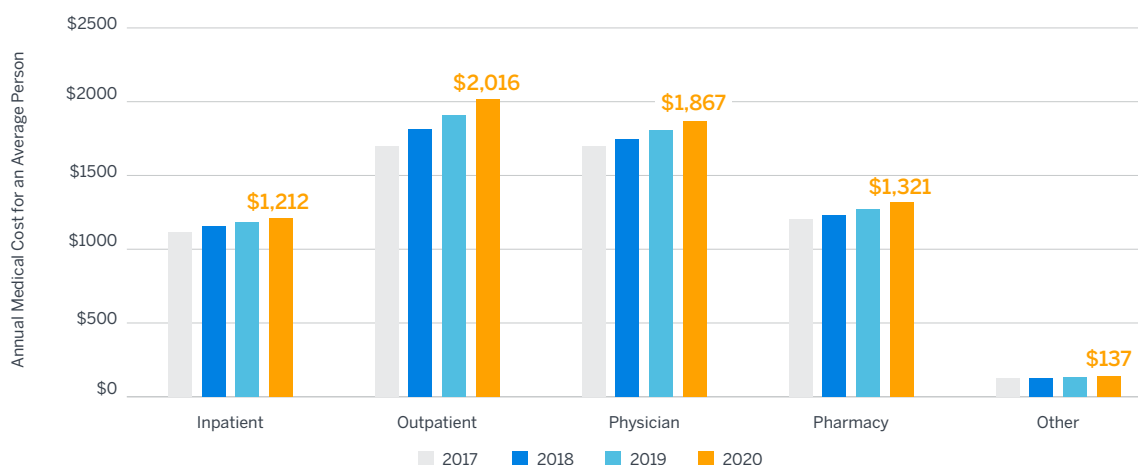


Professional services are also a large category of expenses, representing 28% of total healthcare spending for the average person in 2020. These expenses are for all professional fees, including those from physicians and other healthcare professionals, that are incurred when a patient uses a hospital, clinic, surgical center, stand-alone lab or imaging center, or a physician office. Physicians' share of the healthcare cost pie has shrunk consistently over the years we have published the MMI, as the other major slices—hospital and prescription drugs—have grown at higher rates. However, emerging data from 2019 suggests that physician expenses grew at a relatively strong rate of 3.3%, keeping pace with the growth in the other healthcare expense components. From 2019 to 2020, we are projecting physician cost growth to reach 3.5% (excluding impacts from COVID-19), primarily due to strong demand for services and the continuing consolidation of physician practices into larger organizations.<sup>16</sup> With COVID-19 resulting in an estimated 60% decline in ambulatory visits through mid-April,<sup>17</sup> the financial hardship imposed by the pandemic on independent physician practices may accelerate this trend.

Perhaps surprisingly, growth in prescription drug costs<sup>18</sup> has declined materially over the past few years. We are projecting that pharmacy costs for the average person will grow by 3.4% from 2018 to 2019, and by 3.9% from 2019 to 2020. While commercial trends for specialty medications have exceeded 10% the past several years, many new high-cost treatments are covered under the medical benefit, with an increasing proportion of specialty medications delivered through a hospital or office setting.<sup>19</sup>

The remaining 2% of expense is for “other” services, which include home healthcare, ambulance services, durable medical equipment, and prosthetics.

**FIGURE 5: MMI ANNUAL SPENDING GROWTH BY COMPONENT OF CARE FOR AN AVERAGE PERSON**



16 Suthrum, P. (February 27, 2020). Physician practice consolidation: It's only just begun. STAT. Retrieved May 8, 2020, from <https://www.statnews.com/2020/02/27/physician-practice-consolidation-its-only-just-begun/>.

17 Mehrotra, A. et al. (April 23, 2020). What Impact Has COVID-19 Had on Outpatient Visits? Commonwealth Fund. Retrieved May 8, 2020, from <https://www.commonwealthfund.org/publications/2020/apr/impact-covid-19-outpatient-visits>.

18 The MMI's prescription drug expenses do not reflect the savings from most manufacturer rebates.

19 Bunger, A., Cline, M., & Holcomb, K. (December 2019). Commercial Specialty Medication Research: 2019 Benchmark Projections. Milliman Report. Retrieved May 8, 2020, from [https://milliman-cdn.azureedge.net/-/media/milliman/pdfs/articles/commercial\\_specialty\\_medication\\_research\\_2019\\_benchmark\\_projections.ashx](https://milliman-cdn.azureedge.net/-/media/milliman/pdfs/articles/commercial_specialty_medication_research_2019_benchmark_projections.ashx).

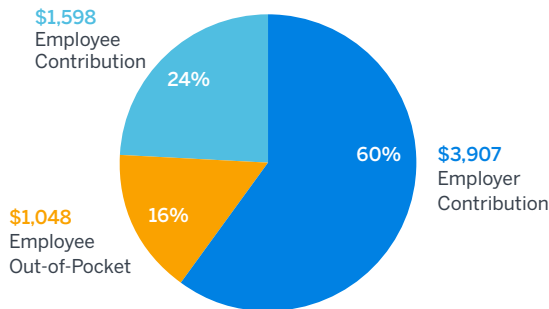
## Employees' share of healthcare costs

The total cost of healthcare is shared by employers and employees. To clearly define each payment source, we use three main categories:

- 1 Employer contribution.**<sup>20</sup> Employers that sponsor health plans subsidize the cost of healthcare for their employees by allocating compensation dollars to pay a large share of the cost. The portion paid by the employer varies according to the benefit plan option the employee selects.
- 2 Employee contribution.** Employees who choose to participate in the employer's health benefit plan typically also pay a substantial portion of costs, usually through payroll deduction.
- 3 Employee out-of-pocket cost at time of service.** When employees receive care they also often pay for a portion of these services via health plan deductibles and/or point-of-service copays. While these payments are capped by out-of-pocket maximums, the costs can still be substantial.

Figure 6 shows the relative proportions of the three categories. We project that employers will subsidize their employees' healthcare costs by paying an average of 60% of the total cost in 2020. Of the \$6,553 total cost for an average person, the employer pays about \$3,907 while the employee pays the remaining \$2,646, which is a combination of \$1,598 in employee payroll deductions and \$1,048 in out-of-pocket costs paid when utilizing healthcare services.

**FIGURE 6: RELATIVE PROPORTIONS OF 2020 MEDICAL COSTS**



Employees paid 3.8% more per person in 2019 than they did in 2018 while employers paid 3.5% more. We predict employees and employers will equally share 2020 cost increases, with the employee and employer shares both increasing 4.1% for an average person. This is, in part, due to the tight labor market leading up to 2020, when benefit designs and employee contributions were established. However, the current pandemic has changed the economic outlook significantly, which may result in some midyear changes to either contributions or benefit plans.

Figure 7 compares the employer versus employee spend breakdown for an average person as well as the MMI family of four. While the distribution of costs is similar, we can see that the family of four shares 27% of the cost via employee contributions while the average person shares 24%. This is a common situation, as employers tend to require employees to pay more toward the coverage of dependents.

<sup>20</sup> Prior MMI versions reported employee contributions for family coverage. Employees with family coverage often pay higher contributions than employees with single coverage. We are now reporting contributions for an average person covered by employer-sponsored health insurance, which results in a lower estimate compared to past MMI reports.

**FIGURE 7: EMPLOYER AND EMPLOYEE PORTIONS OF SPENDING FOR AVERAGE PERSON AND MMI FAMILY OF FOUR**

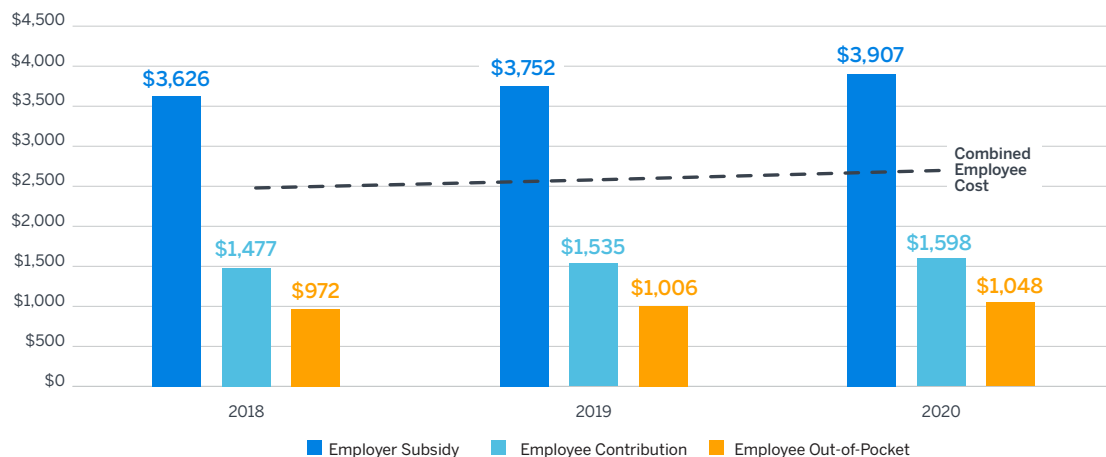
	AVERAGE PERSON	MMI FAMILY OF FOUR
EMPLOYER CONTRIBUTION	\$3,907	\$16,368
EMPLOYEE PORTION		
EMPLOYEE CONTRIBUTION	\$1,598	\$7,703
EMPLOYEE OUT-OF-POCKET	\$1,048	\$4,582
EMPLOYEE TOTAL	\$2,646	\$12,285

Figure 8 provides additional information on how cost sharing has evolved over time. In 2018, our data indicated that 16.0% of all costs, or \$972, were paid at the point of service by an average person. We assume that employers will maintain a similar plan in 2019 and 2020 that continues to result in 16.0% of point-of-service employee payments, or an actuarial value of 84.0%. Due to healthcare cost growth, this translates to a projected 2020 employee out-of-pocket cost of \$1,048.

Employee contributions were \$1,477 per person in 2018 and increased to \$1,535 in 2019. Based on early indicators, we project an increase in line with healthcare cost growth for 2020 with a projected contribution of \$1,598 per average person.

The employer subsidy increased from \$3,626 in 2018 to \$3,752 in 2019. We project the employer subsidy will reach \$3,907 in 2020.

From 2018 to 2020, we predict employees will see a cumulative 8.0% increase in their total average costs (employee contributions, plus out-of-pocket expenses incurred at point of care). In the same time period, we predict employers will see a 7.7% bump in their portion of their employee benefit costs.

**FIGURE 8: MEDICAL COST BY SOURCE OF PAYMENT FOR AN AVERAGE PERSON**

Visit the Milliman Medical Index interactive tool to build your own family and understand their healthcare costs. Share your results on social media using the hashtag [#MMIndex20](#).

## Technical appendix

The Milliman Medical Index (MMI) is made possible through Milliman’s ongoing research on healthcare costs. The MMI is derived from Milliman’s flagship health cost research tool, the Health Cost Guidelines™, as well as a variety of other Milliman and industry data sources, including Milliman’s MidMarket Survey.

The MMI portrays the projected total cost of medical care for an average person, and for a hypothetical family of four (two adults and two children), covered under an average employer-sponsored PPO health benefit program. The MMI reflects the following:

- Nationwide average provider fee levels negotiated by insurance companies and preferred provider networks
- Average PPO benefit levels offered under employer-sponsored health benefit programs
- Utilization levels representative of the average for people covered by large employer group health benefit plans in the United States

The Patient Protection and Affordable Care Act (ACA) introduced the concept of “metallic tiers” for benefit plans starting in 2014. Individual and small group policies must have a metallic tier level of “bronze” or higher (silver, gold, or platinum). Bronze implies that, on average, the plan will pay 60% of the costs for the essential health benefits (EHBs) that must be provided by the benefit plan. To help avoid penalties, larger employers must provide plans that, on average, pay at least 60% of the cost of covered services, a threshold deemed “minimum value.” The MMI plan has an actuarial value of approximately 84.0% in 2020.

### VARIATION IN COSTS

While the MMI measures costs for an average person, and for a hypothetical family of four, any particular family or individual could have significantly different costs. Variables that affect costs include:

**Age and gender.** There is wide variation in costs by age, with older people generally having higher average costs than younger people. Variation also exists by gender. Our MMI-illustrated family of four consists of a male age 47, a female age 37, a child age 4, and a child under age 1. This mix allows for demonstration of the range of services utilized by adult men, adult women, and children. Average utilization and costs of specific services will be different for other demographic groups.

**Individual health status.** Tremendous variation also results from health status differences. People with severe or chronic conditions are likely to have much higher average healthcare costs than people without these conditions.

**Geographic area.** Significant variation exists among healthcare costs by geographic area because of differences in healthcare provider practice patterns and average costs for the same services. For example, the relative cost of living affects healthcare costs, as labor costs (e.g., nurses and technicians) tend to be higher in areas where the cost of living is higher. Access to advanced technology also affects the utilization of services by geographic area.

**Provider variation.** The cost of healthcare depends on the specific providers used. Even in the same city, costs for the same service can vary dramatically from one provider to another. The cost variation results from differences in billed charge levels, discounted payment rates that payers have negotiated, and implementation of payment methodologies that may influence utilization rates, such as capitation or case rates.

**Insurance coverage.** The presence of insurance coverage and the amount of required out-of-pocket cost sharing also affects healthcare spending. With all other variables being equal, richer benefit plans usually have higher utilization rates and costs than leaner plans.

## THE MMI DIFFERS FROM SOME OTHER TYPES OF INDICES

The MMI dollar amounts are best estimates of costs, estimates that can and will be restated over time as new information becomes available. The dollar amounts are grounded in actual health insurance claims incurred over multiple years. The most recent year of data reflects approximately 62 million lives. However, the published MMI dollar amounts for the most recent two years are estimates, using actual claims data that is trended forward to the most recent two years. For example, dollar amounts published in the 2020 report were grounded in 2018 claims, and then projected forward from 2018 to 2019 and 2020 using estimated trend rates. The trend rates are estimated after considering a variety of industry data sources and other information. Some degree of judgment is applied when integrating the most recent data points into single best estimates of nationwide average trend rates for each major type of service. Further, we intend to routinely restate past published numbers as new information becomes available. For example, in the 2020 MMI report, we have restated the 2017, 2018, and 2019 numbers that were published in last year's report. As such, we view the MMI numbers as continually restated best estimates of costs.

Some MMI readers have asked whether it is reasonable to reference the MMI in performance guarantee contracts. To illustrate, contracts between health plans and very large employers sometimes require financial settlements between the two parties when, for example, the employer's actual healthcare costs grow by more or less than a specified benchmark. The MMI is not the optimal benchmark for such purposes, as it is based—at least in part—on estimates and professional judgment, as described above. In our opinion, a contractual trend guarantee should be based on an index that is a purely objective reflection of actual trends from a large, stable, and highly credible data source that is not prone to influence from judgment. Milliman has a resource that was developed specifically for that purpose, the Milliman Health Trend Guidelines (HTGs). The HTGs are a series of indices providing per capita data on the cost, utilization, and unit costs of healthcare services. Formerly known as the S&P Healthcare Claims Indices, Milliman collaborated with S&P on the indices since their inception, before acquiring them in January 2019. The HTGs provide purely objective, data-driven, backward-looking indices of actual healthcare trends by geographic area, line of business, and type of service. They were developed with the intention of being reliable indices for contractual performance guarantees. Data underlying the HTGs are also used to help inform Milliman's Health Cost Index Forecast (HCIF). The HCIF is a forward-looking three-year projection of healthcare trends.





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