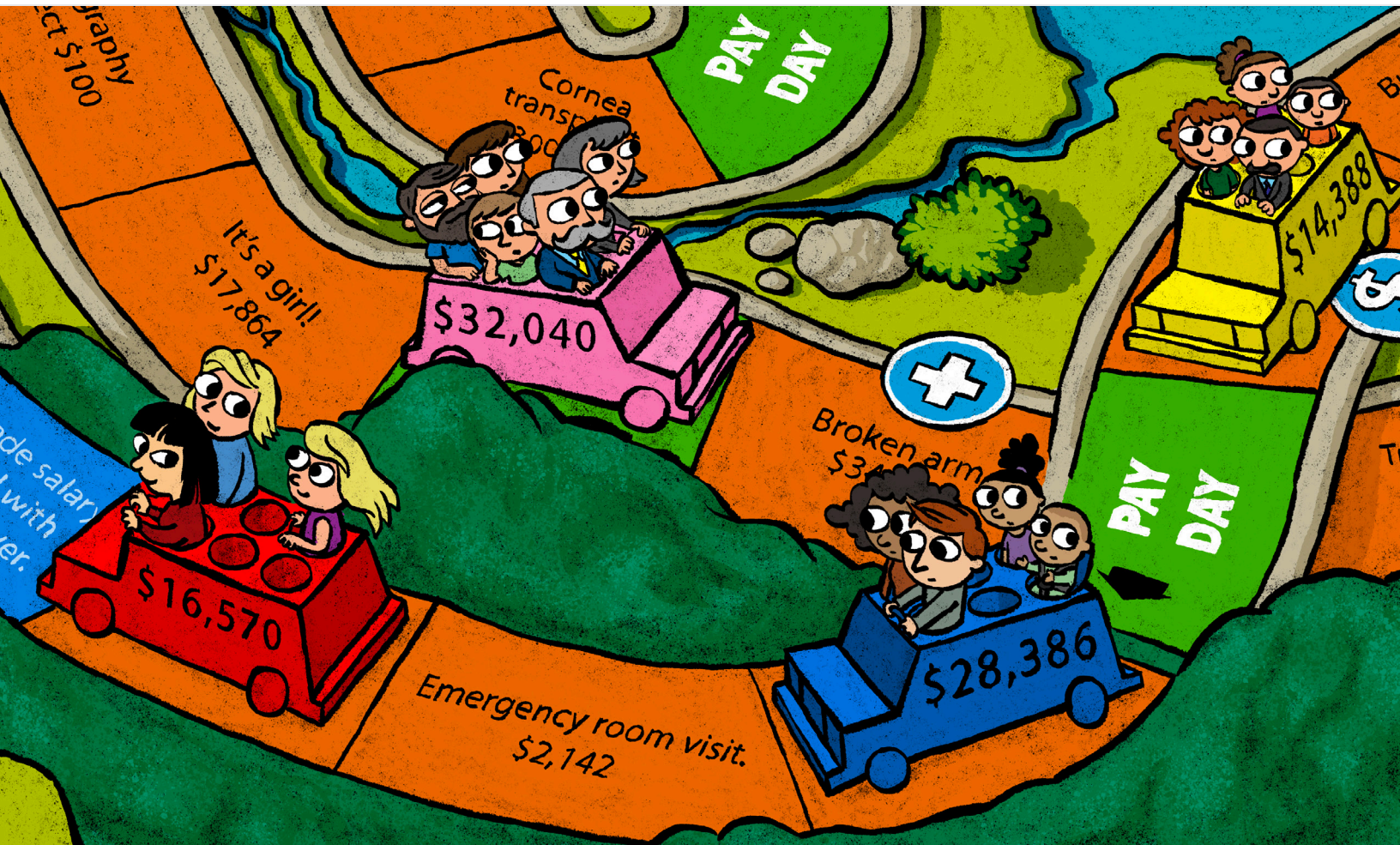


# 2019 Milliman Medical Index

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## Executive summary

In 2019, the cost of healthcare for a hypothetical American family of four covered by an average employer-sponsored preferred provider organization (PPO) plan is \$28,386, according to the Milliman Medical Index (MMI).<sup>1,2</sup>

### KEY FINDINGS OF THE 2019 MMI INCLUDE:



**Healthcare costs are increasing at a slower rate, by historical standards.** Back in the early 2000s, healthcare expenses for the MMI family of four were growing by 10% a year. Now, nearly 20 years later, growth rates are at record-low levels. We estimate that costs grew by only 2.9% from 2017 to 2018, and then by a moderately higher 3.8% from 2018 to 2019.



**Prescription drug trends are low.** With the public spotlight shining squarely on the high cost of prescription drugs in the United States, one might think that drugs have been a major cost driver for our MMI family of four. However, while their level of costs may be high, their rate of growth has been relatively modest the past few years. We estimate that drug costs for the family increased by approximately 4.5% from 2017 to 2018, and then by only 2.1% from 2018 to 2019.<sup>3</sup> However, past volatility in prescription drug expenses has taught us that these rates can jump significantly, up or down, continuing the uncertainty around future growth rates. As discussed later in this report, national attention has also focused on prescription drug rebates, whose impact on net drug expenses has become increasingly important.



**Employer costs increase more than employee costs... this year, at least.** The healthcare costs highlighted in the MMI are funded by employer contributions to health plans, and by employees through their payroll deductions and out-of-pocket expenses incurred when care is received. Over the 19 years that we have tracked the MMI, the long-term trend has been for employees to pay an increasingly higher percentage of total costs. However, from 2017 to 2018, that trend was disrupted—possibly due to low unemployment rates and a relatively strong economic outlook—with employer contributions increasing by 5.1% and employee cost growing by less than 1%. From 2018 to 2019, we estimate that employer versus employee contribution rates have grown at similar rates, 3.6% versus 4.0%, respectively. The ebb and flow of “who pays more” will likely continue, as discussed later in this report, but as healthcare growth rates moderate, so too might the shift of costs from employer to employee.

## The MMI, it is a-changin’

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.” In prior years we have 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 extremely 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.

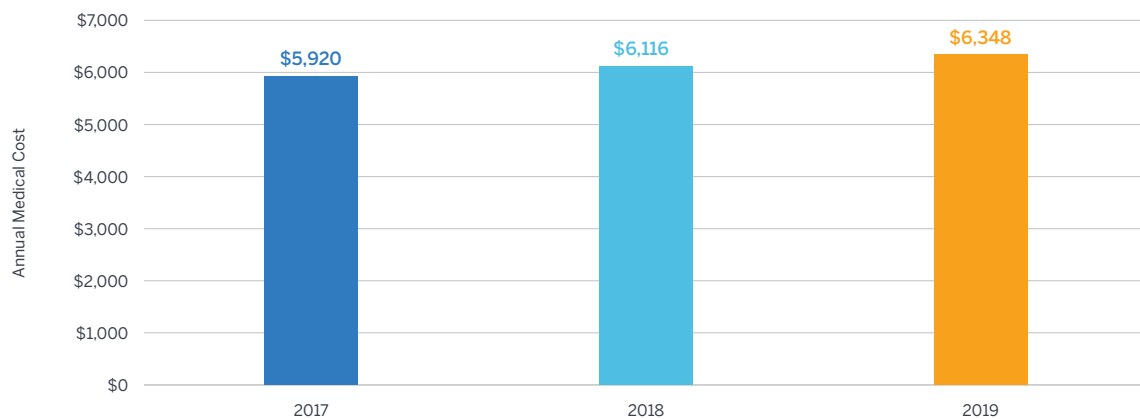
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- 1 The Milliman Medical Index is an actuarial analysis of the projected total cost of healthcare for a hypothetical family of four covered by an employer-sponsored preferred provider organization (PPO) plan. Unlike many other healthcare cost reports, 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 2019 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 adjustments in the MMI development methodology, in addition to the one-year impact of healthcare cost inflation.
  - 3 The MMI’s prescription drug expenses do not reflect the savings from most manufacturer rebates. Those rebates are discussed more in a later section of this report.

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. Each year we have boiled down the complex underlying details and variations into a single dollar value and limited cost components. But healthcare costs and their drivers are not that simple, and we believe it’s important to provide more detail and transparency to inform the discussions surrounding healthcare costs.

By widening the view, we can provide new insights to our readers, which include consumers, employers, policymakers, providers, insurers, and other stakeholders. We hope to accomplish this by introducing an expanded, interactive version of the MMI in 2019.<sup>4</sup> This will allow readers to explore how costs may vary for different types of families. While this does not capture all cost variations by individual (such as those driven by different health conditions) it captures significant features that drive expected healthcare costs.

For readers who are interested in our status quo MMI number, we are publishing the traditional MMI amount for our hypothetical family of four, which in 2019 is \$28,386. We are also publishing the cost for an average person, which is \$6,348 (see Figure 1).

**FIGURE 1: MILLIMAN MEDICAL INDEX (MMI) FOR AN AVERAGE PERSON**



We are also taking this opportunity to adjust how the MMI is developed and to rebase it, reflecting changes in our mix of data sources and actual versus projected costs. In the past, the MMI has been a series of one-year estimates. Moving forward, the MMI will make clear distinctions between actual and projected amounts, and future MMI reports will include restatements of past projections. For example, in this year’s report we are publishing a 2017 MMI amount that is grounded in 2017 health insurance claims data from approximately 65 million people covered by employer group plans. That data, and thus our estimate of 2017 healthcare expenses, will not change in future publications. In contrast, the MMI figures that we are publishing for 2018 and 2019 are estimates. As complete data on 2018 and 2019 expenses becomes available over the next two years, we will restate our MMI estimates of costs in those two years.

<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)

## Components of cost

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

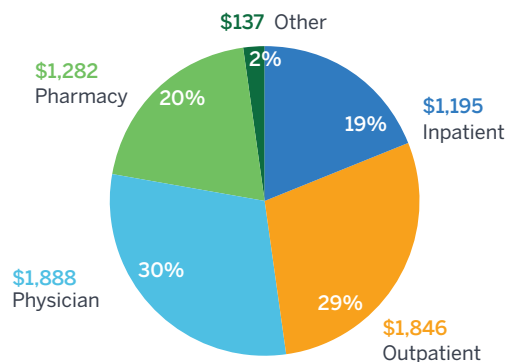
1. Inpatient facility care
2. Outpatient facility care
3. Professional services
4. Pharmacy
5. Other services

As shown in Figure 2, 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 2018 suggests that total hospital expenses (inpatient plus outpatient) increased by a relatively low amount, only 2.8% from 2017 to 2018. In 2019, however, we are projecting that the increase in hospital expenses will bounce back up to 4.0%.

Hospital growth typically leads to more expenditures for hospital services. With the U.S. population continuing to age and the economy remaining relatively strong, hospitals have continued to invest in expanding their facilities and services.

For the average person, approximately 19% of total expenses are attributable to inpatient hospital services, as shown in Figure 2. 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 32% of total expenses are attributable to inpatient hospital services. These variations are illustrated in the new MMI interactive tool, which also gives users the option of exploring cost allocations for other individual and family constructs.

**FIGURE 2: 2019 MMI COMPONENTS OF SPENDING**

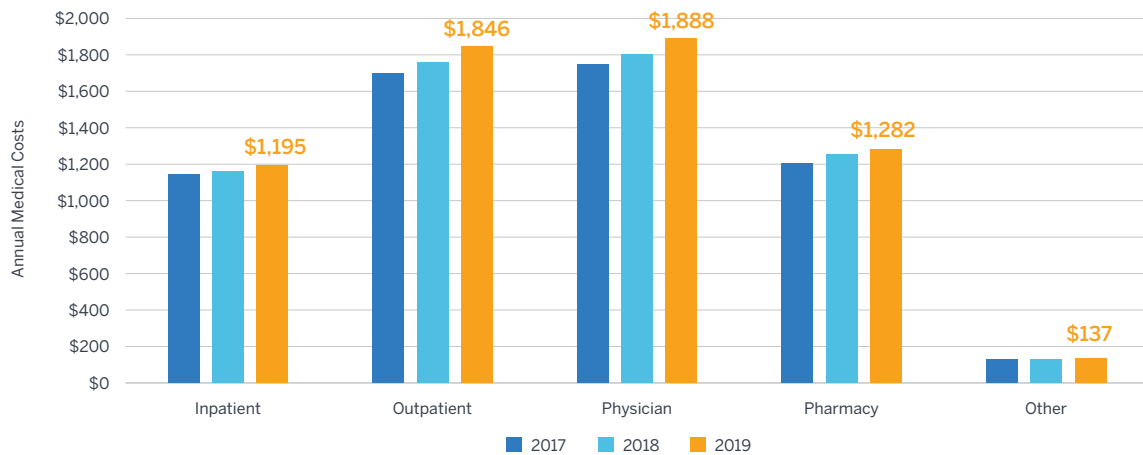


Professional services are also a large category of expenses, representing 30% of total healthcare spending for the average person in 2019. These expenses are for all professional fees, including those from physicians and other healthcare professionals, that are incurred when a patient uses a hospital, 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 2018 suggests that physician expenses grew at a relatively strong rate of 3.2%, keeping pace with the growth in the other healthcare expense components. From 2018 to 2019, we are projecting physician cost growth to reach 4.6%, primarily due to strong demand for services and the continuing consolidation of physicians into larger organizations.

Perhaps surprisingly, growth in prescription drug costs has declined materially over the past few years. We are projecting that pharmacy costs for the average person will grow by 4.5% from 2017 to 2018, and by 2.1% from 2018 to 2019. A variety of forces are helping to keep inflation rates lower than they have been in the past, including increased public attention on how America can better control drug cost inflation.

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

**FIGURE 3: MMI ANNUAL SPENDING GROWTH BY COMPONENT OF CARE FOR AN AVERAGE PERSON**



## Point of sale prescription drug rebates

The financing of prescription drugs is complex. One contributing factor continues to be the increasing magnitude of manufacturer rebates. The retail price for a brand-name drug at the pharmacy counter is often far more than the net cost after rebates are applied. Drug manufacturers pay large retroactive rebates—sometimes exceeding 50% of the retail price—to PBMs and plan sponsors (insurers or employers) to include these drugs on insurance plans. However, those rebates often only make their way back to the consumer in terms of insurance premium reductions spread across all consumers rather than discounts at the drug counter for the people taking these drugs.

With more brand-name and specialty drugs now subject to deductibles and coinsurance rather than flat dollar copays, some PBMs have begun to price drugs net of rebates at the point-of-sale (POS) so consumers most affected by the high costs reap the rebates’ rewards. Doing so reduces the sticker price of high-cost drugs and helps consumers reduce their out-of-pocket spend at the pharmacy, but at the expense of marginally increasing premiums for all consumers.

Figure 4 shows what a member with the MMI's PPO coverage pays for an illustrative \$200 brand-name drug under the current situation where rebates of 35% are paid solely to the employer.

Figure 5 shows what the same member would pay under the same situation except the drug rebate is applied at the point of sale to reduce the member's cost. The member's out-of-pocket cost is 35% lower in this scenario (\$50 versus \$32.50) as they gain the full benefit of the additional discount provided by the rebate.

**FIGURE 4**

BRAND DRUG COST	\$200.00
25% MEMBER COINSURANCE	- \$50.00
DRUG REBATE	- \$70.00
EMPLOYER COST	= \$80.00

**FIGURE 5**

BRAND DRUG COST	\$200.00
DRUG REBATE	- \$70.00
BRAND COST LESS REBATE	= \$130.00
25% MEMBER COINSURANCE	- \$32.50
EMPLOYER COST	= \$97.50

In practice, POS rebates are not this straightforward. Stakeholders must weigh a number of issues as they consider this method of claims administration. In some instances, individuals who benefit most from POS rebates also meet their health plan's out-of-pocket maximum. These individuals do not benefit from POS rebates and may pay more overall with marginally increased premiums.

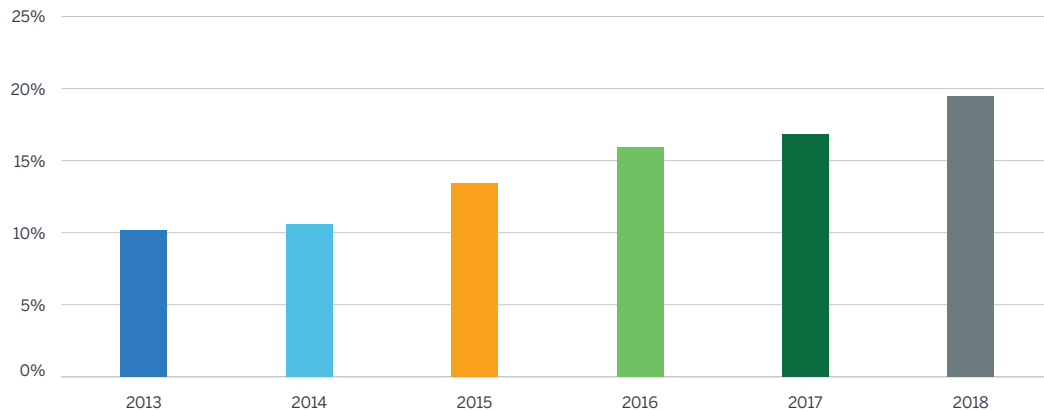
Individuals with flat dollar copays generally pay the same amount regardless of the drug's price. A related challenge is that most rebates are determined after a drug is sold, making it difficult to estimate an accurate rebate at POS. Another downstream effect is that premiums need to be set slightly higher as the rebate savings are shared more with the people using these drugs rather than the entire insured population. Given all the issues at hand, careful evaluation of POS rebate programs is needed as these options continue to become more prevalent in the market.

Quantifying the impact of POS rebates is challenging because of confidentiality agreements between PBMs and manufacturers. However, multiple national PBMs and health plans have announced a move toward POS rebates.<sup>5</sup> And until just recently, Medicare was also moving towards prohibiting post-POS rebates. The pharmacy costs reported in the MMI implicitly reflect POS rebates, but we do not adjust pharmacy costs to reflect rebates received directly.

5 Abutaleb, Y., Goldstein, A., & Parker, A. (July 11, 2019). Trump kills key drug price proposal he once embraced. *The Washington Post*.

Manufacturer rebates continue to increase as a percentage of total drug spending. In 2018, rebates received as a percentage of prescription drug claims reached 19.5%, up from 10.2% in 2013.<sup>6</sup> With rebates nearly doubling over a five-year period, rebates have an increasingly large impact on total healthcare costs. This ensures that rebates will continue to be a hot topic going forward.

**FIGURE 6: REBATES RECEIVED AS PERCENTAGE OF PRESCRIPTION DRUG CLAIMS**



## 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 subsidy.** 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.<sup>7</sup>** 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, as has typically been done and is now legislated by the Patient Protection and Affordable Care Act (ACA),<sup>8</sup> the costs can still be substantial.

<sup>6</sup> Milliman analysis of statutory financial statement "Supplemental Health Care Exhibit" data reported by insurers for large and small group business segments.

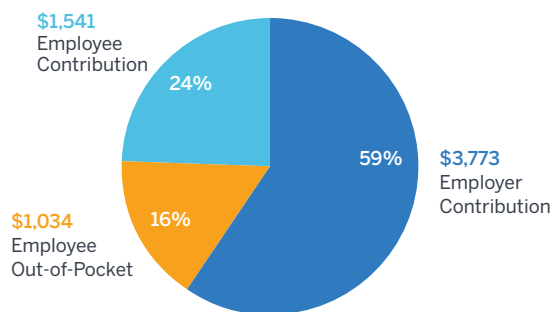
<sup>7</sup> Prior MMI versions reported employee contributions for family coverage. Employees with family coverage often pay higher contributions than employees with single coverage. We are now reporting contributions for an average person covered by employer-sponsored health insurance, which results in a lower estimate compared to past MMI reports.

<sup>8</sup> Out-of-pocket maximums for 2019 must not exceed \$7,900 per person and \$15,800 per family.



Figure 7 shows the relative proportions of the three categories. We project that employers will subsidize their employees' healthcare costs by paying an average of 59% of the total cost in 2019. Of the \$6,348 total cost for an average person, the employer pays about \$3,773 while the employee pays the remaining \$2,575, which is a combination of \$1,541 in employee payroll deductions and \$1,034 in out-of-pocket costs paid when utilizing healthcare services.

**FIGURE 7: RELATIVE PROPORTIONS OF 2019 MEDICAL COSTS**



The percentage growth of employee costs has begun to slow in recent years perhaps, in part, due to a tight labor market. As shown in Figure 8, employees paid 0.8% more per person in 2018 than they had in 2017 while employers paid 5.1% more. We predict employees and employers will more equally share 2019 cost increases with the employee share increasing 4.0% per person and employer costs increasing 3.6%.

**FIGURE 8: ANNUAL INCREASE IN SPENDING SPLIT BY EMPLOYER AND EMPLOYEE PORTIONS**

	2018/2017	2019/2018
EMPLOYER SUBSIDY	5.1%	3.6%
EMPLOYEE PORTION		
EMPLOYEE CONTRIBUTION	-0.8%	4.1%
EMPLOYEE OUT-OF-POCKET	3.3%	3.8%
EMPLOYEE TOTAL	0.8%	4.0%
TOTAL FOR EMPLOYER + EMPLOYEE	3.3%	3.8%

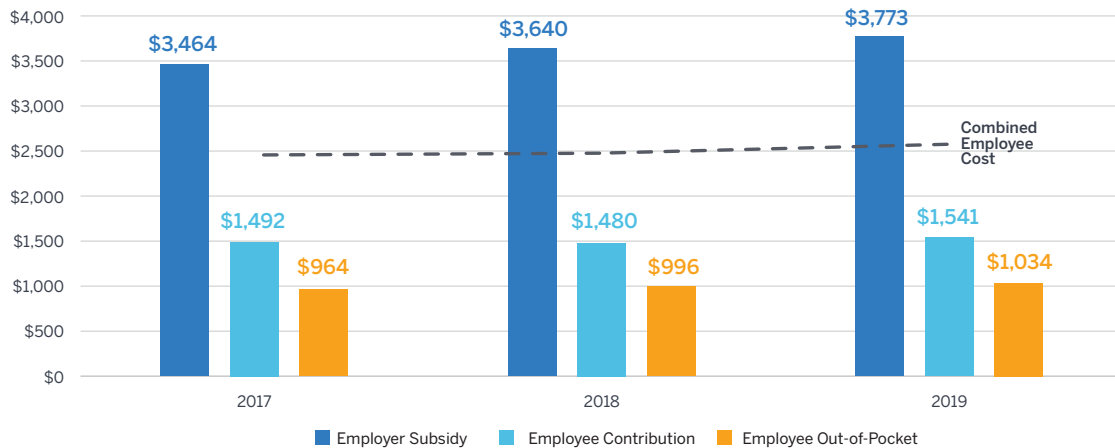
Figure 9 on page 10 provides additional information on how cost sharing has evolved over time. In 2017, our data indicated that 16.3% of all costs, or \$964, were paid at the point of service by an average person. We assume that employers will maintain a similar plan in 2018 and 2019 that continues to result in 16.3% of point-of-service employee payments, or an actuarial value of 83.7%. Due to healthcare cost growth, this translates to a projected 2019 employee out-of-pocket cost of \$1,034.

Employee contributions have been held in check too. These contributions were \$1,492 per person in 2017 and declined to \$1,480 in 2018. Based on early indicators, we project an increase more in line with healthcare cost growth for 2019 with a projected contribution of \$1,541 per average person.

The employer subsidy increased from \$3,464 in 2017 to \$3,640 in 2018. We project the employer subsidy will reach \$3,773 in 2019.

From 2017 to 2019, we predict employees will see a cumulative 4.8% 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 an 8.9% bump in their portion of their employee benefit costs.

**FIGURE 9: MEDICAL COST BY SOURCE OF PAYMENT FOR AN AVERAGE PERSON**



### UNDEFINED CONTRIBUTION

Large employers, and an increasing number of small employers,<sup>9</sup> self-fund their health insurance benefits. In essence, these employers fund the payment of their claims themselves rather than passing the risk onto an insurance company. However, employers also often set their employer subsidy with a “defined contribution.” In other words, regardless of which plan option their employees choose, the employer pays the same amount of money per employee covered by its health plan. In turn, employees pay more in payroll deductions when opting for plans with lower deductibles and copays and vice versa.

But how does an employer define its contribution if it is merely estimating the costs for the coming year when it self-funds? It doesn’t. In reality, employers budget for the following year’s healthcare costs using their best estimates for healthcare cost growth. If the employer underestimates budgeted costs, then employee contributions are less than they should be, and vice versa.

In times like this, with lower healthcare cost increases, employers can easily overshoot their expected health claims outlays, which inadvertently passes more costs to employees. The same can happen when setting unpaid claims reserves with too much conservatism, which can be costly in a competitive labor market like the current one. Healthcare cost indices such as the Milliman Health Trend Guidelines can help employers plan ahead.<sup>10</sup>

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 **#MMIndex19**.

9 Cigna (December 2013). Infographic: Level Funding: Know What You Owe. Retrieved July 17, 2019, from [https://www.cigna.com/assets/docs/business/small-employers/826929\\_h\\_level\\_funding\\_v5.pdf?WT.z\\_nav=business-segments%2Fsmall-employers%2Ffunding-options%3BBody%3BLevel%20Funding%20overview](https://www.cigna.com/assets/docs/business/small-employers/826929_h_level_funding_v5.pdf?WT.z_nav=business-segments%2Fsmall-employers%2Ffunding-options%3BBody%3BLevel%20Funding%20overview).

10 For more information about Milliman Health Trend Guidelines, see <http://www.milliman.com/htg/>.

## 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 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, and 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 83.7% in 2019.

### 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.



Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

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