

MILLIMAN RESEARCH REPORT

# 2023 Milliman Medical Index

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Deana Bell, FSA, MAAA  
Mike Gaal, EMBA, FSA, MAAA  
Paul Houchens, FSA, MAAA  
David M Liner, FSA, CERA, MAAA

Annie Man, FSA, MAAA, PhD  
Andrew Naugle, MBA  
Doug Norris, FSA, MAAA, PhD



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## Executive summary

In 2023, the cost of healthcare for a hypothetical American family of four covered by an average employer-sponsored preferred provider organization (PPO) plan is \$31,065, according to the Milliman Medical Index (MMI).<sup>1,2</sup>

Figure 1 summarizes restated MMI family values from 2021 through 2023.

**FIGURE 1: ANNUAL HEALTHCARE COST FOR MMI FAMILY OF FOUR**

2021	\$28,310
2022	\$29,424
2023	\$31,065

This year's MMI is based on 2021 healthcare claims data projected forward to 2023 using estimated healthcare cost trends. With this approach, we estimate the 2023 MMI value and restate the 2022 and 2021 MMI values to reflect information collected since last year's publication.

### LOOKING BACK



After decreasing in 2020 for the first time in MMI history,<sup>3</sup> healthcare costs came roaring back in 2021 and have continued to increase in 2023. This trend is higher than gross domestic product (GDP) growth over a similar time period.<sup>4</sup> The 4.8% annual trend since 2021 is a moderation of the 13% increase in healthcare costs from 2020 to 2021 and is similar to historical MMI trends observed before the COVID-19 pandemic.

### LOOKING AHEAD



We project healthcare costs will grow by approximately 5.6% for the MMI family from 2022 to 2023. As we work our way through 2023, the U.S. healthcare sector continues to face an elevated level of uncertainty due to evolving macroeconomic conditions. For example, labor markets, supply chain issues, provider labor shortages, and healthcare price transparency requirements all contribute to this unpredictability.

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, pharmacy rebates, or insurance company profit loads.

2 The 2022 MMI dollar amount is not directly comparable to the amount published in last year's MMI report as the prior publication values have been restated to reflect currently available claims experience and information on healthcare cost inflation.

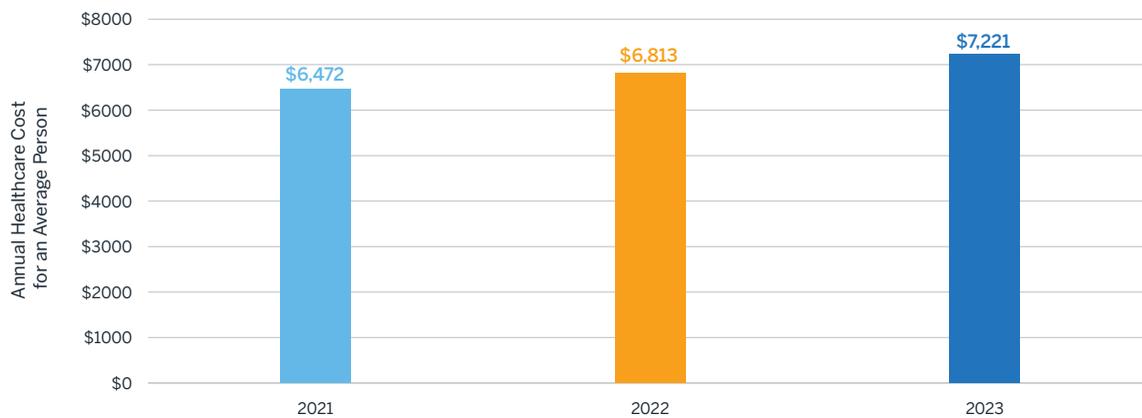
3 For more information, see <https://us.milliman.com/en/insight/2021-milliman-medical-index>. Note, values in prior reports have been restated to reflect new information collected since publication.

4 Real GDP increased by approximately 1.7% per year from 2019 through 2022. See <https://www.bea.gov/data/gdp/gross-domestic-product> (retrieved May 16, 2023).

## What the MMI represents

Since its first publication in 2005, the MMI has proven a valuable measure of healthcare costs and changes in those costs for a hypothetical American family of four. We have always defined the MMI family as a male age 47, a female age 37, a child age 4, and a child under age 1. In reality, though, family compositions vary, and different families can experience 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. Figure 2 summarizes MMI average person values from 2021 through 2023.

**FIGURE 2: ANNUAL HEALTHCARE COST PER PERSON**



Of course, changes in healthcare costs are different for everyone. Our interactive tool allows users to see healthcare costs for the MMI family and to model their own hypothetical family.<sup>5</sup> While the 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 definition of the American family. The remainder of this report will discuss healthcare costs for the average person.

## Macroeconomic forces

A key assumption built into the MMI value each year is the level of inflation that can be expected between the experience period and the forecast period. This year's inflation assumption is particularly impactful for the MMI. Recent general inflation in the United States has been at the highest levels in four decades, and as noted in the Milliman white paper "Medical Inflation: Drivers and Patterns",<sup>6</sup> medical inflation typically mimics general inflation but lags by six to 12 months. The lag is commonly attributed to cost stickiness and to the fact that health contracts between payers and providers are negotiated periodically (instead of continuously).

Our methodology for setting the overall healthcare cost trend looks at a variety of different segments of the U.S. healthcare market, including regional differences, populations, providers, and types of service. There are myriad factors that underlie the total. As we exit the COVID-19 pandemic, and now that the public health emergency has ended, there are a number of macroeconomic factors, discussed below, that we will be monitoring as we look toward the trends for the remainder of 2023 and beyond.

<sup>5</sup> Visit the MMI interactive tool to build your own family and understand their healthcare costs at <http://www.milliman.com/mmi>.

<sup>6</sup> Jensen, B. & Norris, D. (February 2, 2023). Medical Inflation: Drivers and Patterns. Milliman Insight. Retrieved May 16, 2023, from <https://www.milliman.com/en/insight/medical-inflation-drivers-and-patterns>.

## LABOR MARKETS

The current U.S. labor market is strong due to low unemployment and positive labor projections, although there have been many layoffs in the technology sector in 2022 and 2023 compared to recent years.<sup>7</sup>

The continuation of remote and hybrid work along with economic forces can lead to increased churn in the employer-sponsored market. Transitioning jobs may lead to disruption in healthcare coverage for the employee, disruption of access to certain enhanced benefits (e.g., family planning and reproductive health), different levels of benefit coverage and out-of-pocket costs, and different provider networks. Each transition could lead to changes in access and utilization patterns, delays in care or forgoing care when exposed to high out-of-pocket costs, and disruptions in established patient and provider relationships. This additional force can contribute to the overall noise in the data that underpins our understanding of healthcare trends and makes it more challenging to estimate trends.

## SUPPLY CHAIN ISSUES

The healthcare supply chain is unique among supply chains, flowing downstream from medical device manufacturers, biotech firms, and pharmaceutical companies into the financing, distribution, and group purchasing aspects of care management, then to providers directly involved in care delivery.<sup>8</sup>

The COVID-19 pandemic thrust supply chain issues into the spotlight, challenging the “just-in-time” philosophy of many production networks for inventory management, with economic disruptions including, but not limited to, the war in Ukraine. These factors have kept healthcare entities on their toes ever since. Multiple recent reports<sup>9,10</sup> indicate that low availability of raw materials and base metals could disrupt the availability of implants, surgical instruments, and plastics needed for a variety of medical staples. Semiconductors are used in many modern medical electronics and the impact to the health sector could take time to resolve.

## PROVIDER LABOR SHORTAGES

Healthcare is a labor-intensive industry. Labor’s share of total hospital expenses has risen steadily over the last decade,<sup>11</sup> but labor expenses increased by more than one-third during the height of the pandemic alone.<sup>12</sup> Contract labor was a key driver of this increase as providers sought to ameliorate pandemic-related staff shortages.

Although the health sector’s total employment as of December 2022 was 1.2% higher than the previous peak (immediately before the pandemic), it still lags meaningfully behind what would have been expected based on pre-pandemic trends, according to a recent Peterson/KFF Health System Tracker report.<sup>13</sup> Moreover, the recovery is uneven, with outpatient care centers, nursing care facilities and community care facilities being hit hardest.<sup>14</sup>

7 U.S. Bureau of Labor Statistics (September 8, 2022). Employment Projections: 2021-2031 Summary. Retrieved May 16, 2023, from <https://www.bls.gov/news.release/ecopro.nr0.htm>.

8 Sam M. Walton College of Business (Fall 2022). Inflation and Healthcare Supply Chains. University of Arkansas. Retrieved May 16, 2023, from [https://walton.uark.edu/initiatives/supply-chain-research/files/WhitePaper5\\_Healthcare\\_Final.pdf](https://walton.uark.edu/initiatives/supply-chain-research/files/WhitePaper5_Healthcare_Final.pdf).

9 Magyar, J. (April 17, 2023). Companies Are Betting on Supply Chain Fitness to Beat Inflation. Forbes. Retrieved May 16, 2023, from <https://www.forbes.com/sites/sap/2023/04/17/companies-are-betting-on-supply-chain-fitness-to-beat-inflation>.

10 American Hospital Association. Returning to Normalcy Is Anything but for the Healthcare Supply Chain. Retrieved May 16, 2023, from <https://www.aha.org/aha-center-health-innovation-market-scan/2023-04-25-returning-normalcy-anything-health-care-supply-chain>.

11 Healthcare Financial Management Association (October 2, 2019). Hospitals Innovate to Control Labor Costs. Retrieved May 16, 2023, from <https://www.hfma.org/technology/hospitals-innovate-to-control-labor-costs>.

12 KaufmanHall (May 2022). The Financial Effects of Hospital Workforce Dislocation. Retrieved May 16, 2023, from <https://www.kaufmanhall.com/sites/default/files/2022-05/KH-NHFR-Special-Report-2.pdf>.

13 Telesford, I. et al. (January 20, 2023). How has health sector employment recovered since the pandemic? Health System Tracker. Retrieved May 16, 2023, from <https://www.healthsystemtracker.org/chart-collection/what-impact-has-the-coronavirus-pandemic-had-on-healthcare-employment>.

14 Ibid.

## HEALTHCARE PRICE TRANSPARENCY REQUIREMENTS

Healthcare services are unique among the typical American consumer's market basket of goods. Consumers generally can tell how much they will spend on most daily purchases, but especially in deductible/coinsurance-heavy benefit plans, determining what we will spend in the medical system is still a challenge. Kaiser Health News and National Public Radio (NPR) even feature a "Bill of the Month";<sup>15</sup> where especially interesting invoicing outliers are explored. As a large component of a typical family budget, healthcare surprises can lead to medical debt and bankruptcy.<sup>16</sup>

In October 2020, the U.S. federal agencies of the Department of Health and Human Services (HHS), Department of the Treasury, and Department of Labor (DOL) released the Transparency in Coverage final rules.<sup>17</sup> These rules require non-grandfathered group health plans and health insurance issuers to publish data on the prices of healthcare services. One intention of the rules is to empower consumers. The federal agencies believe that provider-specific reimbursement rate disclosure will lead to increased market competition and lower costs.<sup>18</sup> These final rules augmented initial 2019 rules requiring U.S.-based hospitals to publish standard charges for most common services.<sup>19</sup> Hospitals were required to start posting data on January 1, 2021, and payers were required to start posting data on July 1, 2022.

Previously guarded as closely as possible, these arrangements are still difficult to ascertain, in part because the volume of data now available is both daunting in size and challenging to interpret appropriately.<sup>20</sup> But the potential for systemic change is real. Organizations that can effectively decipher the data will have the answers they need to use transparency to bring down healthcare costs. We can envision a future where employers are able to put actionable price and quality information in the hands of their plan participants to better achieve what was once promised by high-deductible and consumer-driven health plans. The price transparency data, when married with in-depth analytics and amplified with other data assets, has the potential to transform the way employers design provider networks and plans to yield better outcomes and lower costs. Although stakeholder use of this data is still in its infancy and we expect it will take some time before payers and providers figure out how to best leverage it for price negotiations, insight into competitive pricing information has the potential to make a significant impact on overall healthcare cost trends.

## Components of cost

The MMI segments healthcare costs into five categories of services:

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

15 NPR. Bill of the Month. Retrieved May 16, 2023, from <https://www.npr.org/series/651784144/bill-of-the-month>.

16 Amadeo, K. (January 20, 2022). Medical Bankruptcy and the Economy. The Balance. Retrieved May 16, 2023, from <https://www.thebalancemoney.com/medical-bankruptcy-statistics-4154729>.

17 The full text of these final rules is available at <https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/CMS-Transparency-in-Coverage-9915F.pdf>.

18 CMS (October 29, 2020). Transparency in Coverage Final Rule Fact Sheet (CMS-9915-F). Retrieved May 16, 2023, from <https://www.cms.gov/newsroom/fact-sheets/transparency-coverage-final-rule-fact-sheet-cms-9915-f>.

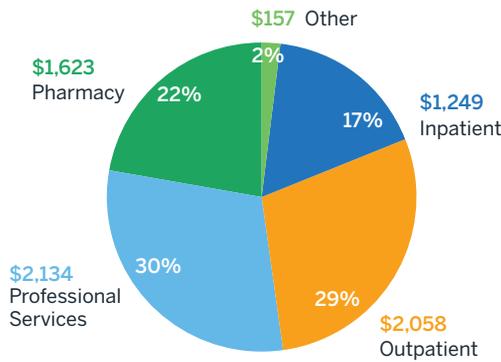
19 The full text of the 2019 rules is available at <https://www.federalregister.gov/documents/2019/11/27/2019-24931/medicare-and-medicaid-programs-cy-2020-hospital-outpatient-pps-policy-changes-and-payment-rates-and>.

20 Gaal, M. & Severn, C. (January 20, 2023). The Challenges—and Opportunities—of Harnessing Healthcare Pricing Data. Milliman Insight. Retrieved May 16, 2023, from <https://www.milliman.com/en/insight/challenges-and-opportunities-of-harnessing-healthcare-pricing-data>.

As shown in Figure 3, 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 services. After increasing approximately 12% from 2020 to 2021, driven by deferred elective care during the early stages of the COVID-19 pandemic, emerging data from 2022 suggests that total hospital expenses (inpatient plus outpatient) increased by 3.4% from 2021 to 2022, reflecting more normal utilization patterns relative to the first two years of the pandemic. In 2023, we are projecting that the increase in hospital costs will be 4.2%.

For the average person, approximately 17% of total expenses are attributable to inpatient hospital services, as shown in Figure 3. However, inpatient hospital costs for newborns are higher, due to complications associated with birth and infancy. For the MMI's hypothetical family of four, which includes a child of age less than 1, approximately 30% 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 hypothetical family constructs.

**FIGURE 3: 2023 MMI COMPONENTS OF SPENDING FOR AN AVERAGE PERSON**



Percentages may not add to 100%, due to rounding.

Professional services are also a large category of healthcare costs, representing 30% of total healthcare spending for the average person in 2023. These costs 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's office. Professional services have also been significantly impacted by COVID-19 in the last few years. Like hospital services, professional utilization rebounded in 2021, resulting in a 12.6% trend from 2020 to 2021 and then moderating to a 4.5% trend from 2021 to 2022. From 2022 to 2023, we are projecting professional services costs to increase by 9.0%.<sup>21</sup> Professional service trends in 2023 are driven by a continued rebound in utilization relative to prior years, as well as general inflationary pressures impacting material and labor costs, resulting in expense increases exceeding revenue growth.<sup>22</sup> Specific to staff wages, the employment cost index for private industry workers in healthcare and social assistance indicates annual increases of approximately 6% for the last five quarters.<sup>23</sup>

21 Landi, H. (August 2, 2022). For medical practices, increase in patient volumes, revenue not enough to outweigh the growing cost of care. Fierce Healthcare. Retrieved May 16, 2023, from <https://www.fiercehealthcare.com/providers/medical-practices-iiincrease-patient-volume-revenue-not-enough-outweigh-growing-cost-care>.

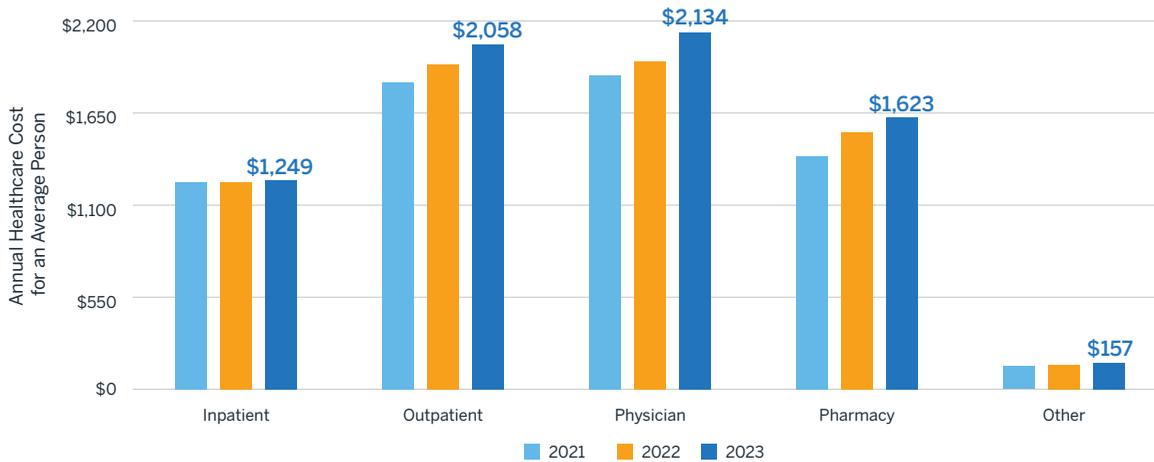
22 KaufmanHall (April 2023). Physician Flash Report. Retrieved May 16, 2023, from [https://www.kaufmanhall.com/sites/default/files/2023-05/KH-PFR\\_2023-04.pdf](https://www.kaufmanhall.com/sites/default/files/2023-05/KH-PFR_2023-04.pdf).

23 FRED Economic Data. Employment Cost Index: Wages and Salaries for Private Industry Workers in Healthcare and Social Assistance. Retrieved May 16, 2023, from <https://fred.stlouisfed.org/series/CIU2026200000001>.

Deviating from the COVID-19-influenced trends observed for both hospital and professional services, we are estimating that pharmacy costs for the average person have grown by 10.6% from 2021 to 2022, and by 5.6% from 2022 to 2023. The reduction in pharmacy cost trend may be attributable to brand patent expirations, launch of biosimilars, and increased scrutiny of prescription drug prices due to recent cost pressures. As noted in the next section on prescription drug rebates, the pharmacy costs included in the MMI do not reflect impacts from pharmacy rebates, which have been growing more rapidly than gross pharmacy costs. The estimated spread between gross pharmacy and net pharmacy trends is approximately 1%.

The remaining 2% of expense is for “other” services, which includes, but is not limited to, home healthcare, ambulance services, durable medical equipment (DME), and prosthetics. Driven by pent-up demand in 2021 and general inflationary pressures in 2022 and 2023, costs for these services increased by 8.7% from 2020 to 2021, moderated to a 5.1% increase from 2021 to 2022, and are estimated to increase by approximately 9% from 2022 to 2023.

**FIGURE 4: MMI ANNUAL SPENDING GROWTH BY COMPONENT OF CARE FOR AN AVERAGE PERSON**



## Impact of prescription drug rebates

The MMI measures the total cost of healthcare benefits and excludes prescription drug rebates. When the MMI was first published in 2005, rebates were a much smaller amount relative to total healthcare costs.

Rebate agreements between drug manufacturers and pharmacy benefit managers (PBMs) are treated as proprietary information and thus it can be challenging to assemble a full picture of rebates and other channel incentives. Health insurers report rebates and paid drug claims for fully insured business in statutory financial statements. We project rebates to be approximately 25% to 31% of allowed drug costs in 2023. We estimate that the 2023 MMI value for an average person would decrease by about 6% if rebates in this range are shared with employees. Figure 5 illustrates the impact of rebates on the 2023 MMI value for the average person.

**FIGURE 5: IMPACT OF ILLUSTRATIVE REBATES ON MMI**

CATEGORY	2023 MMI AVERAGE PERSON AMOUNT	NET OF ILLUSTRATIVE REBATES
Medical	\$5,598	\$5,598
Pharmacy	\$1,623	\$1,184
<b>Total</b>	<b>\$7,221</b>	<b>\$6,782</b>

Drug rebates are generally paid by pharmaceutical manufacturers to PBMs for preferred formulary placement. PBMs often share a portion of rebates with the health plan and employer clients.<sup>24</sup> In most employer-sponsored PPO plans today, rebates do not affect an employee’s out-of-pocket costs. Rebates shared with employers may be used to reduce the employer’s cost of healthcare benefits. Changes to the treatment of prescription drug rebates, including returning rebates to the consumer at the point of sale, have been, and continue to be, a hot topic of discussion among PBMs, pharmaceutical manufacturers, and regulators.

## Employees’ share of healthcare costs

In the employer group insurance market, the total cost of healthcare is shared by employers and employees. To clearly define each payment source, we use three main categories:

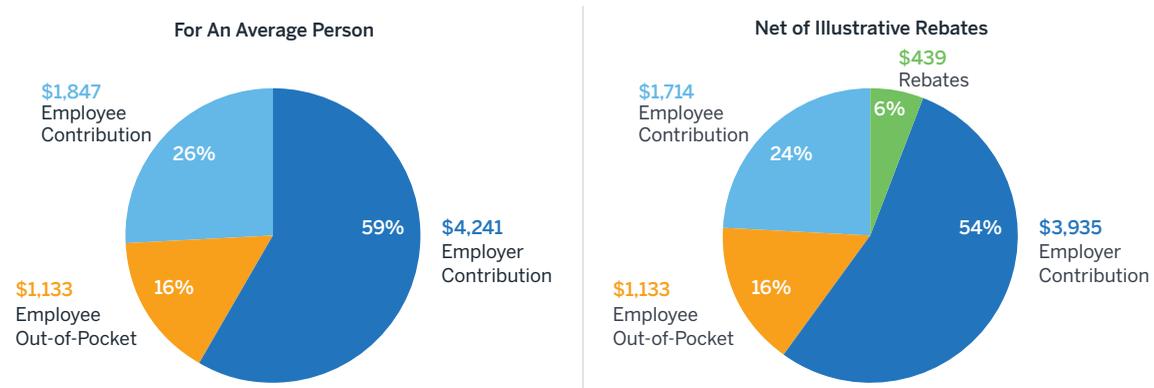
**Employer contribution.** Employers that sponsor health plans subsidize the cost of healthcare for their employees by allocating dollars to pay a large share of the cost. The portion paid by the employer can vary according to the benefit plan option the employee selects.

**Employee contribution.** Employees who choose to participate in the employer’s health benefit plan typically also pay a share of the premiums, usually through payroll deduction.

**Employee out-of-pocket cost.** When employees receive care, they also often pay for a portion of these services via health plan deductibles and/or point-of-service copays or coinsurance. 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 59% of the total cost in 2023. Of the \$7,221 total cost for an average person, the employer pays about \$4,241 while the employee pays the remaining \$2,980, which is a combination of \$1,847 in payroll deductions for the employee contribution and \$1,133 in out-of-pocket costs paid when utilizing healthcare services. Figure 6 also illustrates the impact of pharmacy rebates on employer and employee contributions described in the prior section.

**FIGURE 6: RELATIVE PROPORTIONS OF 2023 HEALTHCARE COSTS**



Employees paid 4.9% more per person in 2022 than they did in 2021 while employers paid 5.5% more. We predict employee costs will increase 4.4% in 2023 while employer costs will increase 7.2%, largely driven by employee contribution increases not rising as much as overall healthcare trend. Payroll deductions for employee premium contributions are expected to be 3.4% higher in 2023 while employee out-of-pocket costs will increase slightly more (6.0%) due to the overall allowed cost trend levels.

24 Alston, M., Dieguez, G., & Tomicki, S. (May 21, 2018). A primer on prescription drug rebates: Insights into why rebates are a target for reducing prices. Milliman Insight. Retrieved May 16, 2023, from <https://www.milliman.com/en/insight/a-primer-on-prescription-drug-rebates-insights-into-why-rebates-are-a-target-for-reducing>.

Figure 7 compares the employer and employee spend breakdown for an average person as well as the MMI family of four. We estimate the average person, as well as the MMI family of four, shares 26% of the total cost via employee contributions. If we were to compare the contributions for an employee electing employee-only coverage to the MMI family of four, we would expect the employee-only coverage to have a lower contribution percentage, as employers tend to require employees to pay more toward the coverage of dependents. This dynamic is not reflected in the published average person values.

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

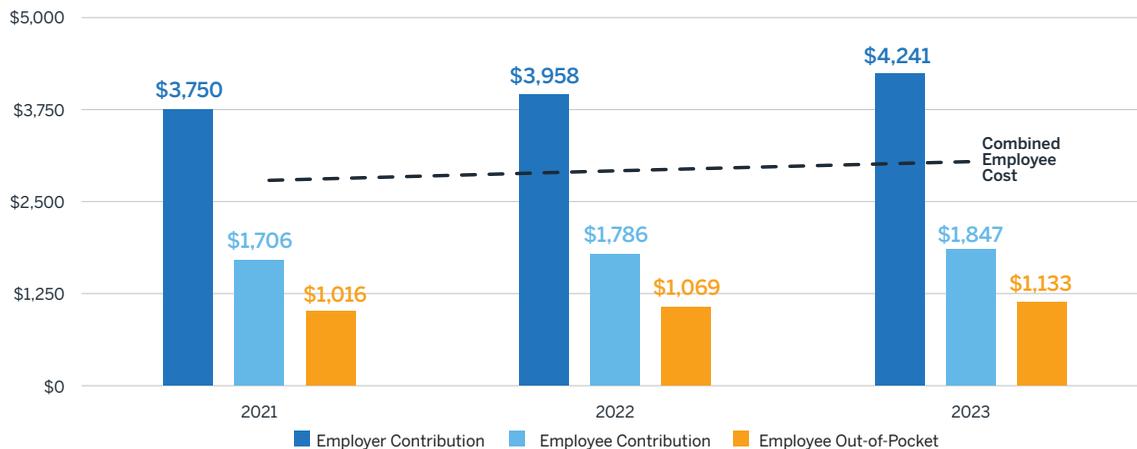
	AVERAGE PERSON	MMI FAMILY OF FOUR
Employer Contribution	\$4,241	\$18,243
<b>Employee portion</b>		
Employee contribution	\$1,847	\$7,946
Employee out-of-pocket	\$1,133	\$4,876
<b>Employee total</b>	<b>\$2,980</b>	<b>\$12,822</b>

Figure 8 provides additional information on how cost sharing has evolved over time. In 2021, our data indicated that 15.7% of all costs, or \$1,016, was paid at the point of service by an average person. This was significantly higher than the 2020 amount due to pent-up demand in 2021 as a result of the pandemic. We assume that employers will maintain a similar plan in 2022 and 2023 that continues to result in an actuarial value of about 84%.<sup>25</sup> Due to healthcare cost growth, this translates to a projected 2023 employee out-of-pocket cost of \$1,133. As a result of pent-up demand, more members hitting their out-of-pocket maximums, and 100% coverage of COVID-19-related testing and vaccinations, some plans may have experienced a higher actuarial value in 2021, and potentially into 2022. Given the end of the public health emergency as of May 11, 2023, we anticipate a reversion to the historical levels in 2023 for those plans.

Employee contributions were \$1,706 per person in 2021 and increased to \$1,786 in 2022. Based on early indicators, we project 2023 contributions of \$1,847 per average person.

As indicated in last year’s MMI report, the employer contribution increased materially from 2020 to 2021, due to a return to more normal utilization patterns in 2021 (following a significant reduction during 2020). The employer contribution increased in 2022, and we project the employer contribution will increase again, to \$4,241, in 2023.

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



<sup>25</sup> Actuarial value represents the percentage of total allowed costs covered by a health plan.

## Technical appendix

The Milliman Medical Index (MMI) is made possible through Milliman's ongoing research on healthcare costs. The MMI is derived from our flagship health cost research tool, the Milliman Health Cost Guidelines™, as well as a variety of other Milliman and industry data sources, including Milliman's Mid Market Survey, Milliman MedInsight® Emerging Experience research database, and Milliman Health Trend Guidelines.

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 84.3% in 2023.

### 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 sex.** There is wide variation in costs by age, with older people generally having higher average costs than younger people. Variation also exists by sex. 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.<sup>26</sup> 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.

26 Smith, C., Singleton, A.R., Lewis, D.C., & Allen, B. (May 2022). Hospital Price Transparency Data: Case Studies for How to Use It. Milliman White Paper. Retrieved May 16, 2023, from [https://www.milliman.com/-/media/milliman/pdfs/2022-articles/5-3-22\\_hospital-price-transparency-data.ashx](https://www.milliman.com/-/media/milliman/pdfs/2022-articles/5-3-22_hospital-price-transparency-data.ashx).

**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 annual healthcare costs, estimates that can and will be restated over time as new information becomes available. The financial values are grounded in actual health insurance claims incurred over multiple years. The most recent year of data reflects approximately 55 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 2023 report were grounded in 2021 claims, and then projected forward from 2021 to 2022 and 2023 using estimated trend rates. The trend rates are estimated after considering a variety of industry data sources and other information, including the impact of the COVID-19 public health emergency. 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. Each year we restate recent past-year results based on new information. For example, in the 2023 MMI report, we have restated the 2021 and 2022 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 has 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. In addition, the Milliman MedInsight Emerging Experience research database provides another reference point of health trends for the MMI study. This quarterly-refreshed database contains de-identified healthcare claims from approximately 75 healthcare organizations nationwide representing over 75 million unique lives. The database provides a comprehensive view of all services received by patients provided by any healthcare professional in any location or setting billed to insurance, including approximately 1.7 million medical professionals and 340,000 healthcare facilities.



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.

[milliman.com](https://www.milliman.com)

**CONTACT**

**Deana Bell**  
[deana.bell@milliman.com](mailto:deana.bell@milliman.com)

**Mike Gaal**  
[mike.gaal@milliman.com](mailto:mike.gaal@milliman.com)

**Paul Houchens**  
[paul.houchens@milliman.com](mailto:paul.houchens@milliman.com)

**David M Liner**  
[dave.liner@milliman.com](mailto:dave.liner@milliman.com)

**Annie Man**  
[annie.man@milliman.com](mailto:annie.man@milliman.com)

**Andrew Naugle**  
[andrew.naugle@milliman.com](mailto:andrew.naugle@milliman.com)

**Doug Norris**  
[doug.norris@milliman.com](mailto:doug.norris@milliman.com)