

MILLIMAN RESEARCH REPORT

2022 Milliman Medical Index

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Mike Gaal, EMBA, FSA, MAAA

Paul Houchens, FSA, MAAA

Dave Liner, FSA, CERA, MAAA

Annie Man, FSA, MAAA, PhD

Andrew Naugle, MBA

Doug Norris, FSA, MAAA, PhD



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Executive summary

In 2022, the cost of healthcare for a hypothetical American family of four covered by an average employer-sponsored preferred provider organization (PPO) plan is \$30,260, according to the Milliman Medical Index (MMI).^{1,2}

Figure 1 summarizes restated MMI family values from 2020 through 2022.

FIGURE 1: ANNUAL HEALTHCARE COST FOR MMI FAMILY OF FOUR

2020	\$25,561
2021	\$28,932
2022	\$30,260

This year's MMI is based on 2020 healthcare claims data projected forward to 2022 using estimated healthcare cost trends. With this approach, we estimate the 2022 MMI value and restate the 2021 and 2020 MMI values to reflect more recent information collected since last year's publication. We also reviewed 2019 healthcare claims data due to the COVID-19 pandemic's impact on 2020 healthcare costs.

LOOKING BACK



The year 2020 marked the first time in the history of the MMI that healthcare costs decreased year over year. But this reprieve in healthcare cost increases would be short-lived. Healthcare costs came roaring back with a 13.2% trend. This rate, driven by a forecasted rebound in healthcare utilization, is higher than historical healthcare cost increases and gross domestic product (GDP) growth over the past five years.³ The higher 3.1% annual trend from 2019 through 2021 is similar to historical MMI trends observed before the COVID-19 pandemic.

LOOKING AHEAD



We project healthcare costs will grow by approximately 4.6% for the MMI family from 2021 to 2022. As we work our way through 2022, the U.S. healthcare sector continues to face an elevated level of uncertainty due to COVID-19 and evolving macroeconomic conditions. Unit cost inflation, technology, the COVID-19 pandemic, and new variation by geography all contribute to this uncertainty.

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.

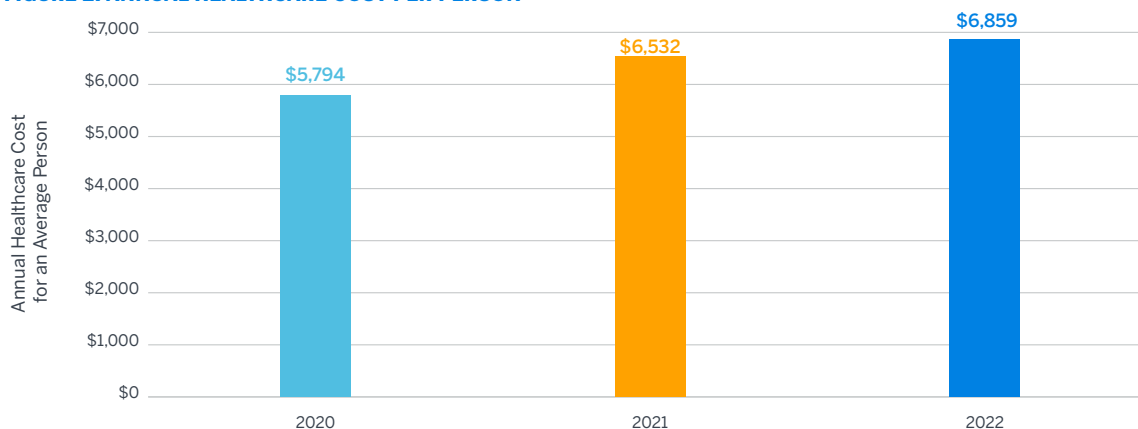
2 The 2021 MMI dollar amount is not directly comparable to the amount published in last year's MMI report as the values have been restated due to the availability of more current claims experience and healthcare cost inflation information.

3 Real GDP increased by approximately 1.8% per-year over the five-year period ending in 2021. See <https://www.bea.gov/data/gdp/gross-domestic-product>, retrieved May 19, 2022.

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 “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 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 2020 through 2022.

FIGURE 2: ANNUAL HEALTHCARE COST PER PERSON



Of course, changes in healthcare costs are different for the average person, the MMI family, and other groups of people. Our interactive tool allows users to see healthcare costs for the MMI family and to model their own hypothetical family.⁴ 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. The remainder of this report will discuss healthcare costs for the average person.

Macroeconomic forces

Since the inception of the MMI in 2005, healthcare costs have increased every year except 2020. In most years, these increases have outpaced consumer price index (CPI) and gross domestic product (GDP) growth. Historically, we have reported how healthcare costs change but have not explored the drivers of this change in depth.

UNIT COST INFLATION

The most persistent driver of recent healthcare cost increases is unit cost inflation, as the noted healthcare economist Uwe Reinhardt and coauthors wrote in a 2003 Health Affairs article, “It’s the Prices, Stupid: Why The United States Is So Different From Other Countries.”⁵ A recent paper in the Journal of the American Medical Association (JAMA)⁶ examined how five key factors drove overall U.S. health spending: population growth, aging, disease prevalence/incidence, utilization, and service price/intensity. This paper concluded that more than half of the increase was due solely to changes in service price and intensity.

4 Visit the MMI interactive tool to build your own family and understand their healthcare costs at milliman.com/mmi.

5 Anderson, G.F. et al. (May 2003). It’s the Prices, Stupid: Why the United States is So Different From Other Countries. Health Affairs. Retrieved May 20, 2022 from <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.22.3.89?journalCode=hlthaff>.

6 Dieleman, J.L. et al. (November 7, 2017). Factors Associated With Increases in US Health Care Spending, 1996-2013. JAMA. Retrieved May 18, 2022, from <https://jamanetwork.com/journals/jama/fullarticle/2661579>.

This conclusion is echoed by other studies, including a 2019 sequel (sans Reinhardt) in Health Affairs. This paper concluded that, as the United States does not consume greater resources than similarly situated countries, the difference in healthcare costs must be attributable to higher prices.⁷

The timing of medical inflation lags behind general inflation by several months. Unlike the economy in general, healthcare unit costs are typically negotiated between carrier and provider and set on an annual basis. This prevents healthcare providers from rapidly reacting to supply issues as we observe in other industries. As a result, the full effect of high inflation on healthcare costs has yet to be seen.⁸

TECHNOLOGY

Technological advancement has been among the most impactful drivers of medical inflation for some time. As new technology is developed, providers often adopt technology while developers work to meet the new capacity with demand. A Forbes report estimates that new medical technology is responsible for 40% to 50% of annual cost increases.⁹ A long-term goal of some innovation is improvement of both longevity and quality of life, but often the impact on cost or return on investment of innovation is unclear or difficult to quantify.

COVID-19 PANDEMIC

The ongoing COVID-19 pandemic continues to influence healthcare costs, including both direct treatment costs (such as inpatient hospitalizations, drug therapies, and testing and vaccination costs) and indirect cost impacts. Indirect cost impacts include the return of care originally deferred during the initial pandemic waves, the increase in access due to expanded telehealth coverage, the impact of conditions commonly referred to as “long COVID,” the increased morbidity impact from deferred and forgone care, and the emergence of newly diagnosed behavioral health conditions introduced from pandemic-related stresses. While it is difficult to quantify the influence of both direct and indirect cost impacts on healthcare cost trend, the lasting effects of the pandemic will likely be a significant driver of trends for the foreseeable future.

The pandemic has also affected health employment, which decreased by a staggering 9.3% between March 2020 and April 2020 alone, and has yet to fully recover (still down 2.7% from March 2020 as of November 2021.)¹⁰ One of the more profound impacts has occurred in rural hospital settings where staff recruitment and retention has always been a challenge. A November 2021 survey of rural hospitals found that 98.5% of survey respondents were experiencing a shortage, with nursing and ancillary care identified as key shortage areas.¹¹ This staffing shortage has forced hospitals to increase salaries and benefits to keep their own nurses.¹² The overall effect has been significant,¹³ showing double-digit increases in average weekly earnings in the health sector between February 2020 and October 2021.¹⁴

7 Anderson, G.F. et al. (January 2019). It's Still the Prices, Stupid: Why the U.S. Spends So Much on Healthcare, and a Tribute to Uwe Reinhardt. Health Affairs. Retrieved May 18, 2022, from <https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05144>.

8 For more information, see <https://www.milliman.com/en/insight/why-inflation-has-limited-impact-on-healthcare-trends>.

9 Clemens, M. (October 26, 2017). Technology and Rising Healthcare Costs. Forbes Retrieved May 18, 2022, from <https://www.forbes.com/sites/forbestechcouncil/2017/10/26/technology-and-rising-health-care-costs>.

10 Wagner, E. et al. (December 10, 2021). What impact has the coronavirus pandemic had on health employment? Health System Tracker. Retrieved May 18, 2022, from <https://www.healthsystemtracker.org/chart-collection/what-impact-has-the-coronavirus-pandemic-had-on-healthcare-employment>.

11 Chartis Group (November 2021). The COVID-19 Pandemic's Impact on Rural Hospital Staffing. Retrieved May 18, 2022, from <https://www.chartis.com/sites/default/files/documents/The-Pandemics-Impact-on-Rural-Hospital-Staffing.pdf>.

12 Scott, D. (November 8, 2021). Why the U.S. nursing crisis is getting worse. Vox. Retrieved May 18, 2022, from <https://www.vox.com/coronavirus-covid19/22763417/us-covid-19-hospitals-nurses-shortage>.

13 Other factors have been significant as well, including increased minimum wage laws. For instance, see: https://floridapolitics.com/wp-content/uploads/2021/12/Minimum-Wage-Impact-on-AHCA-Expenditures_Final-Report-6.pdf.

14 Wagner, E. et al., op cit.

GEOGRAPHIC VARIATION

Geographic variation in medical care patterns was broadly explored in a popular New Yorker piece, “The Cost Conundrum,” focusing on the unusually high cost of care of McAllen, Texas, without a corresponding improvement in outcomes.¹⁵ More than a decade later, care patterns still vary significantly from region to region; for instance, according to Milliman’s 2022 commercial Health Cost Guidelines™, we expect more than double the inpatient admissions per capita in Hot Springs, Arkansas, than in San Francisco, California, after adjusting for population morbidity. A 2018 article¹⁶ explored the root drivers of the overall utilization differences, concluding that the difference was roughly equally attributable to supply-side and demand-side factors. Milliman’s Trend Guidelines explore underlying changes in regional costs at a depth greater than can be served here.

In last year’s MMI report, we explored the relationship between the degree of healthcare management (DoHM) and healthcare costs. Pioneered by Milliman decades ago, DoHM measures the level of “healthcare management” applied to a population. Strategies like utilization management, plan design, population health programs, and gatekeeper models act as levers that insurers and risk-taking providers use to manage utilization. While the best practices for healthcare management are portable among regions, regional practice patterns vary considerably.

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

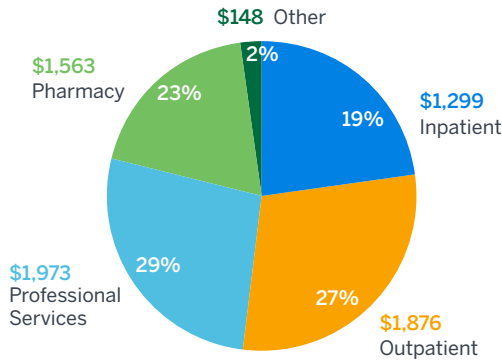
As shown in Figure 3 below, for the MMI’s average person covered by an employer-sponsored PPO plan, approximately one-half of healthcare expenses are for hospital services, including both inpatient and outpatient services. After decreasing by 7.0% from 2019 to 2020, driven by the significant reduction in elective care during the early stages of the COVID-19 pandemic, emerging data from 2021 suggests that total hospital expenses (inpatient plus outpatient) increased by 13.3% from 2020 to 2021, driven by pent-up demand attributable to deferred services in 2020. In 2022, we are projecting that the increase in hospital costs will moderate to 4.3%.

For the average person, approximately 19% of total expenses are attributable to inpatient hospital services, as shown in Figure 3. However, inpatient hospital costs 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 33% 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.

15 Gawande, A. (May 25, 2009). The Cost Conundrum. New Yorker. Retrieved May 18, 2022, from <https://www.newyorker.com/magazine/2009/06/01/the-cost-conundrum>.

16 Finkelstein, A. et al. (November 2016). Sources of Geographic Variation in Healthcare: Evidence From Patient Migration. Q J Econ. Retrieved May 18, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5243120/>.

FIGURE 3: 2022 MMI COMPONENTS OF SPENDING FOR AN AVERAGE PERSON



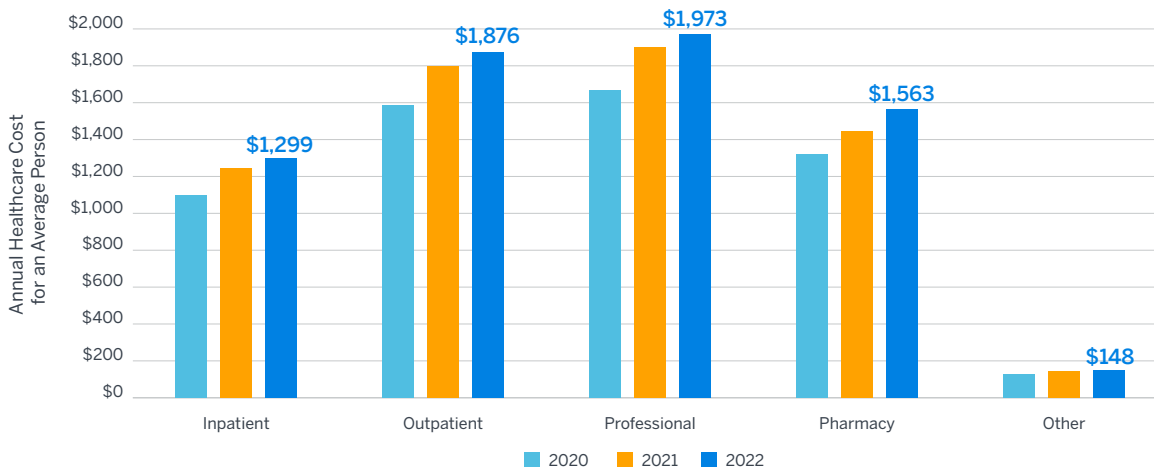
Percentages may not add to 100%, due to rounding.

Professional services are also a large category of healthcare costs, representing 29% of total healthcare spending for the average person in 2022. 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 office. Professional services were also significantly impacted by COVID-19 in 2020, with costs decreasing by 5.7% relative to 2019. Like hospital services, professional utilization rebounded in 2021, resulting in a 14.3% trend from 2020 to 2021. From 2021 to 2022, we are projecting professional services costs to increase by 3.7%.

Deviating from COVID-19-influenced trends observed for both hospital and professional services, we are projecting that pharmacy costs for the average person have grown by 9.5% from 2020 to 2021, and by 8.3% from 2021 to 2022. 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 3%.

The remaining 2% of expense is for “other” services, which includes home healthcare, ambulance services, durable medical equipment (DME), and prosthetics. Similar to trend patterns for hospital and professional services, costs for these services increased by 14.4% from 2020 to 2021 but are estimated to increase only by 3.5% from 2021 to 2022.

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. Health insurers report rebates and paid drug claims for fully insured business. In 2021, rebates represented approximately 26% of paid drug claims, up from 10% in 2013.¹⁷

Rebate agreements between drug manufacturers and pharmacy benefit managers (PBMs) are treated as proprietary information. We project rebates to be approximately 23% to 27% of allowed drug costs in 2022. We estimate that the 2022 MMI for an average person would decrease by about 6% if rebates in this range are shared with employers. Figure 5 illustrates the impact of rebates on the 2022 MMI for the average person.

FIGURE 5: IMPACT OF ILLUSTRATIVE REBATES ON MMI

CATEGORY	2022 MMI AVERAGE PERSON AMOUNT	NET OF ILLUSTRATIVE REBATES
MEDICAL	\$5,296	\$5,296
PHARMACY	\$1,563	\$1,166
TOTAL	\$6,859	\$6,462

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.¹⁸ 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 cost of healthcare benefits. This treatment of rebates could evolve over time as regulator- and innovator-led changes could increasingly reflect the value of rebates at the point of sale, which would affect out-of-pocket costs.

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:

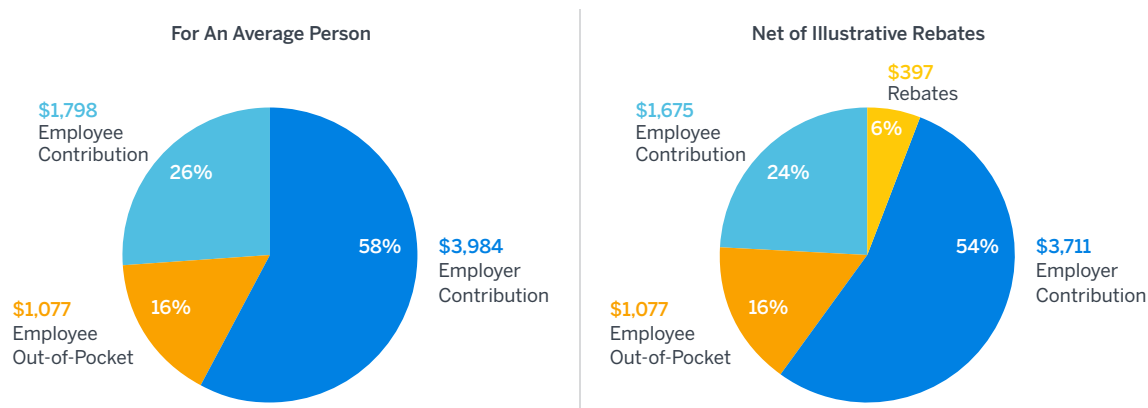
- 1 Employer contribution.** Employers that sponsor health plans subsidize the cost of healthcare for their employees by allocating dollars to pay a large share of the cost. The portion paid by the employer can vary according to the benefit plan option the employee selects.
- 2 Employee contribution.** Employees who choose to participate in the employer's health benefit plan typically also pay a share of the premiums, usually through payroll deduction.
- 3 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.

¹⁷ Based on analysis of Supplemental Healthcare Exhibit data published by statutory health insurance entities.

¹⁸ 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 18, 2022, from <https://www.milliman.com/en/insight/a-primer-on-prescription-drug-rebates-insights-into-why-rebates-are-a-target-for-reducing>.

Figure 6 shows the relative proportions of the three categories. We project that employers will subsidize their employees' healthcare costs by paying 58% of the total cost in 2022. Of the \$6,859 total cost for an average person, the employer pays about \$3,984 while the employee pays the remaining \$2,875, which is a combination of \$1,798 in payroll deductions for the employee contribution and \$1,077 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 2022 HEALTHCARE COSTS



Employees paid 4.4% more per person in 2021 than they did in 2020 while employers paid 19.7% more, largely driven by self-funded employers incurring, on average, significantly lower claims costs in 2020 due to the COVID-19 pandemic, which returned to more typical levels in 2021.¹⁹ We predict employee costs will increase 4.7% in 2022 while employer costs will increase 5.3%. Payroll deductions for employee premium contributions are expected to be 4.4% higher in 2022 while employee out-of-pocket costs will increase slightly more (5%) due to the overall allowed cost trend levels.

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 26.2% 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 our 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	\$3,984	\$17,577
EMPLOYEE PORTION		
EMPLOYEE CONTRIBUTION	\$1,798	\$7,934
EMPLOYEE OUT-OF-POCKET	\$1,077	\$4,750
EMPLOYEE TOTAL	\$2,875	\$12,683

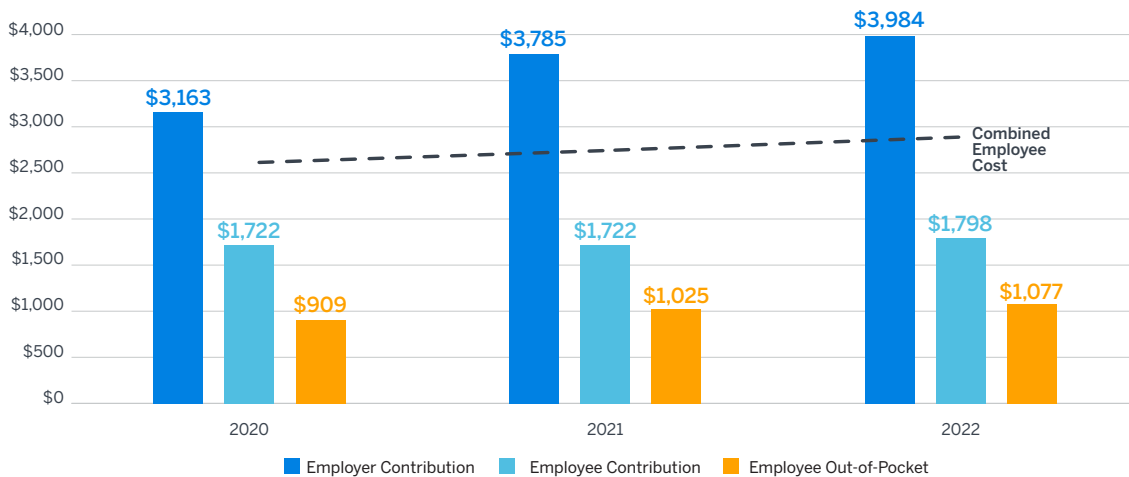
¹⁹ Employers paying fully insured premiums may not have had a reduced 2020 contribution because their premiums were established prior to the onset of the pandemic.

Figure 8 provides additional information on how cost sharing has evolved over time. In 2020, our data indicated that 15.7% of all costs, or \$909, was paid at the point of service by an average person. This was significantly lower than the 2019 amount due to lower utilization in 2020 as a result of the pandemic. We assume that employers will maintain a similar plan in 2021 and 2022 that continues to result in an actuarial value of about 84%.²⁰ Due to healthcare cost growth, this translates to a projected 2022 employee out-of-pocket cost of \$1,077.

Employee contributions were \$1,722 per person in 2020 and remained flat in 2021. Based on early indicators, we project 2022 contributions of \$1,798 per average person, reflecting a return to normal healthcare costs employers incurred in 2021.

The employer contribution increased materially from \$3,163 in 2020 to \$3,785 in 2021, after a sharp decline from 2019 to 2020, largely because of the reductions in costs due to COVID-19 and a return to more normal utilization patterns in 2021. We project the employer contribution will increase to \$3,984 in 2022.

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



²⁰ 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 2022.

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.²¹ 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.

21 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 18, 2022, from 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 dollar amounts are grounded in actual health insurance claims incurred over multiple years. The most recent year of data reflects approximately 65 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 2022 report were grounded in 2020 claims, and then projected forward from 2020 to 2021 and 2022 using estimated trend rates. We also validated this projection using a projection of 2019 healthcare claims data due to the COVID-19 pandemic's effect on healthcare costs in 2020. 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 2022 MMI report, we have restated the 2020 and 2021 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. 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.

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CONTACT

Mike Gaal
mike.gaal@milliman.com

Paul Houchens
paul.houchens@milliman.com

Dave Liner
dave.liner@milliman.com

Annie Man
annie.man@milliman.com

Andrew Naugle
andrew.naugle@milliman.com

Doug Norris
doug.norris@milliman.com