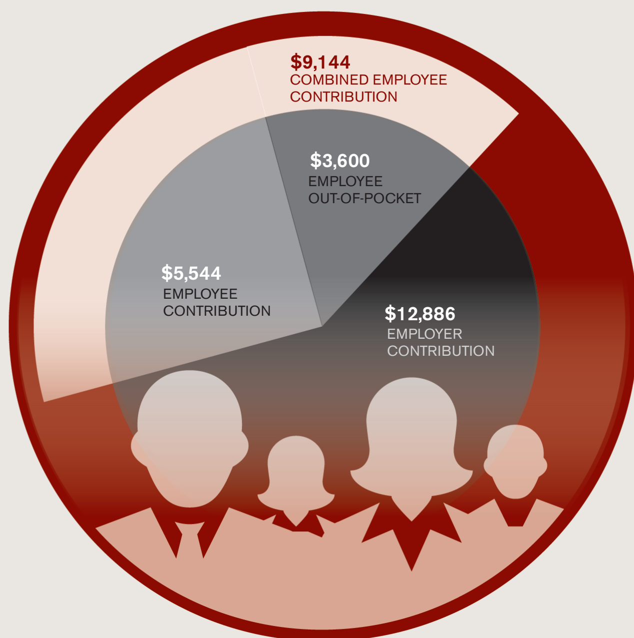
Milliman

2013 Milliman Medical Index

$22,030
MILLIMAN MEDICAL INDEX 2013



$22,261
ANNUAL COST OF ATTENDING AN IN-STATE PUBLIC COLLEGE

$9,144
COMBINED EMPLOYEE CONTRIBUTION

$8,388
YEARLY COST OF GROCERIES FOR FAMILY OF FOUR

$3,600
EMPLOYEE OUT-OF-POCKET COSTS

$2,912
YEARLY COST OF GASOLINE FOR AVERAGE U.S. HOUSEHOLD

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ON THE COVER:

In 2013, healthcare costs for the American family of four are about equal to the annual cost of attending an in-state public college. The employee share of this cost (payroll deductions and out-of-pocket costs) is more than the average cost of groceries for this family, and the out-of-pocket cost alone is more than the average cost of gas.

EXECUTIVE SUMMARY

Last year, when healthcare costs for the typical American family of four exceeded $20,000 for the first time, the Milliman Medical Index (MMI) compared the cost of a family's healthcare to the cost of an average midsize sedan. This year, with costs exceeding $22,000 ($22,030), we note that healthcare costs for our family of four are almost as much as the cost of attending an in-state public college ($22,261) for the current academic year.[1]

The total share of this cost borne directly by the family–$9,144 in payroll deductions and out-of-pocket costs–now exceeds the cost of groceries for the MMI's typical family of four.[2] The out-of-pocket cost alone–$3,600 for co-pays, coinsurance, and other cost sharing–is more than the average U.S. household spends on gas in a year.[3]

Whether our family fully realizes the degree to which total healthcare costs eclipse so many other household costs is another question. Because the employer pays a significant share of our typical family's healthcare costs, some of these costs are not visible in the family budget. But for four of the last five years, our family has seen a larger percentage increase in costs than the employer. Our typical family is well aware of the increasing cost of care, even if it is only responsible for paying 41 cents of every healthcare dollar.

Key findings

As measured by the 2013 MMI, the total annual cost of healthcare for a typical family of four covered by an employer-sponsored preferred provider plan (PPO) is $22,030 (see Figure 1).

- The 6.3% increase over 2012 is the fourth consecutive year of decreasing trends (see Figure 2), but the total dollar increase of $1,302 is the fourth year in a row of increases over $1,300.

- Of the $22,030 healthcare cost for a family of four, the employer pays about $12,886 in employer subsidy while the employee pays the remaining $9,144, which is a combination of $5,544 in payroll deductions and $3,600 in employee out-of-pocket costs. For employees, this represents a cost increase of 6.5% over last year's total employee cost of $8,584.

FIGURE 1

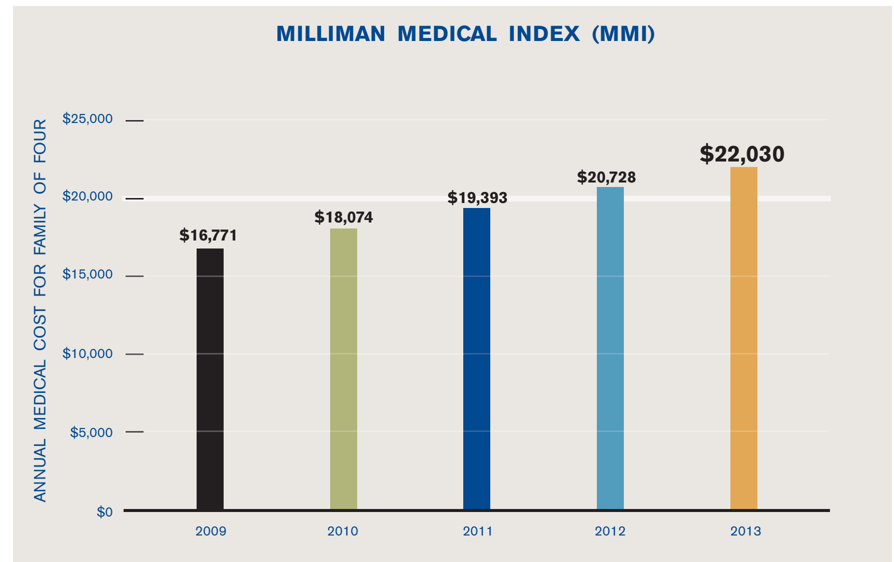
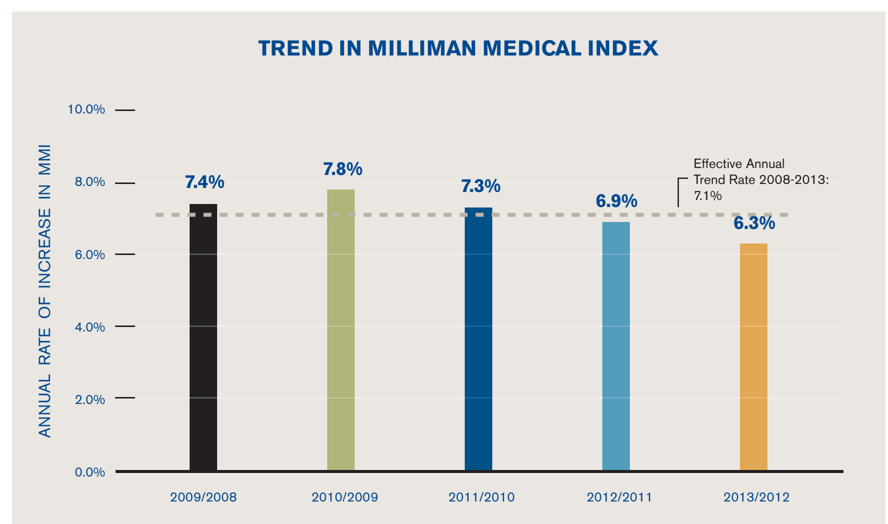


FIGURE 2



1 COLLEGEdata. What's the Price Tag for a College Education? Retrieved May 16, 2013, from https://www.collegedata.com/cs/content/content_payarticle_tmpl.jhtml?articleId=10064.

2 United States Department of Agriculture, Center for Nutrition Policy and Promotion. Official USDA Food Plans: Cost of Food at Home at Four Levels, U.S. Average, March 2013. Accessed May 16, 2013, from http://www.cnpp.usda.gov/Publications/FoodPlans/2013/CostofFoodMar2013.pdf.

3 Autoblog.com. US families spent an average of nearly $3,000 on fuel last year. Retrieved May 16, 2013, from http://www.autoblog.com/2013/02/05/us-families-spent-an-average-of-nearly-3-000-on-fuel-last-year/.

Is this pattern of lower rates of increase over the past four years a sign that America is “bending the cost curve?”

- Is this pattern of lower rates of increase over the past four years a sign that America is “bending the cost curve?” It is difficult to pinpoint a single cause of the slowing rates of increase. Some of the drivers include:

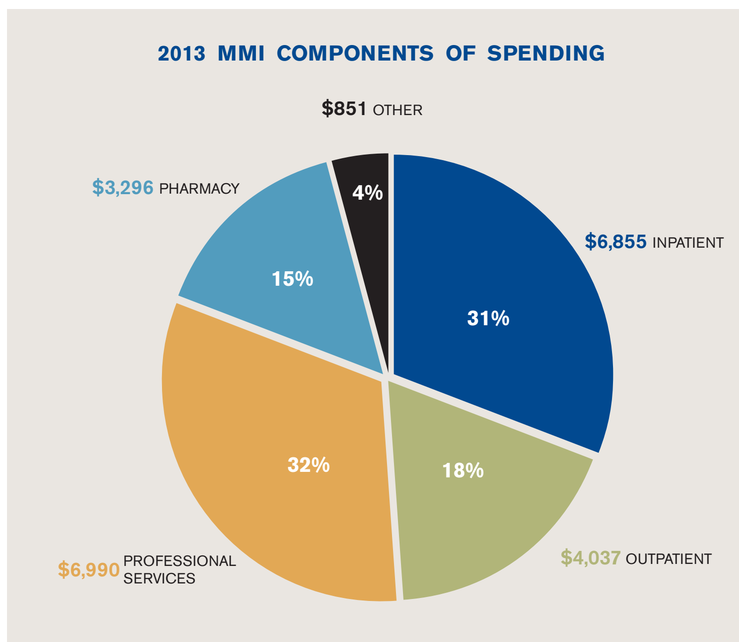
  — The possibility that the economic downturn combined with increased member cost-sharing has reduced demand for less urgent healthcare spending

  — The possibility that more provider integration (accountable care organizations, for example) and/or sharing of information via electronic medical records builds new efficiencies in care delivery

  — The possibility that the small number of new “blockbuster” drugs in the past few years was not enough to offset the ongoing shift to lower-cost generic drugs

- We expect that the emerging reforms required by the Patient Protection and Affordable Care Act (ACA) will have little impact on the cost of care for our family of four in 2013 because this family tends to be insured through a large group health plan. Some of the most far-reaching reforms will not become effective until 2014, and they are focused primarily on the individual and small employer markets. Additionally, while those reforms will likely have immediate impacts on premium rates in those markets, it is unclear whether they will have any near-term effects on growth in the cost of healthcare services for a given person.

FIGURE 3



COMPONENTS OF COST

The MMI examines the cost of healthcare under five separate categories of services:

- Inpatient facility care
- Outpatient facility care
- Professional services
- Pharmacy
- Other services

As shown in Figure 3, for the MMI family of four, care provided by physician and other professional services[4] accounts for 32% of the total spending. Inpatient and outpatient facility care together account for 49% of the total, while pharmacy costs represent 15% of the total cost for healthcare for our family of four. The “Other” category of healthcare spending is the 4% of care that doesn’t fall into one of the other four categories, including durable medical equipment, ambulance, and home health.

At 5.0%, the inpatient facility category grew at a lower rate than any of the other categories (see Figure 5 on page 3). Utilization of inpatient care, as measured by total days in the hospital, is level or slightly lower than it was in 2012. The average cost per day spent in the hospital increased by 6.0%. Changes in cost of hospital labor, new technologies, and liability costs all affect the average cost per day of inpatient care. Insurers and plan sponsors negotiate payment rates to hospitals that often span multiple years and increasingly include incentives for the hospital to provide cost-effective care. For example, an agreement to pay the hospital a fixed amount according to the patient diagnoses can lead to a shorter average stay even though the cost per day may be higher.

4 As it has in prior MMIs, the professional services category includes doctors, physician assistants, nurse practitioners, chiropractors, hearing and speech therapists, physical therapists, and other clinicians.

The 2013 hospital outpatient trend is 9.2%. This category includes a variety of facility-based services that do not involve an inpatient stay. It includes such things as emergency room, outpatient surgery, radiology, pathology, and other care. Professional charges associated with outpatient care are included in the MMI's professional services category. We have been seeing a continued, gradual shift of services from an inpatient setting to an outpatient setting, resulting in higher outpatient trends and lower inpatient trends.

Physician and other professional services for the MMI family of four totaled nearly $7,000 ($6,990) in 2013 (see Figure 4), an increase of 5.2% over 2012. This year, the increase is due to both utilization and charge increases–a notable departure from the nearly flat utilization over the past two years. This may be a result of an improving economy; the increase could also reflect an increased use of preventive care with the elimination of cost sharing for that care, as required by the ACA.

Pharmacy costs for the MMI family of four increased 7.9% over 2012. Use of brand drugs declined as utilization shifts to generics. Unlike past years, this shift toward generics was not offset by the introduction of many new "blockbuster" brand-name drugs. Specialty drug utilization continues to be a more important component of drug utilization. Specialty drugs comprise very expensive prescriptions (typically over $600 or so for a monthly supply).[5] While pharmacy costs represent 15% of the total cost of care for a family of four, this year's increase in pharmacy costs accounts for 18% of the family's total increase in healthcare cost, with pharmacy cost increases representing $240 of the total $1,302 increase in total costs for the family.

The increase in the "Other" category is 7.0% over 2012.

FIGURE 4

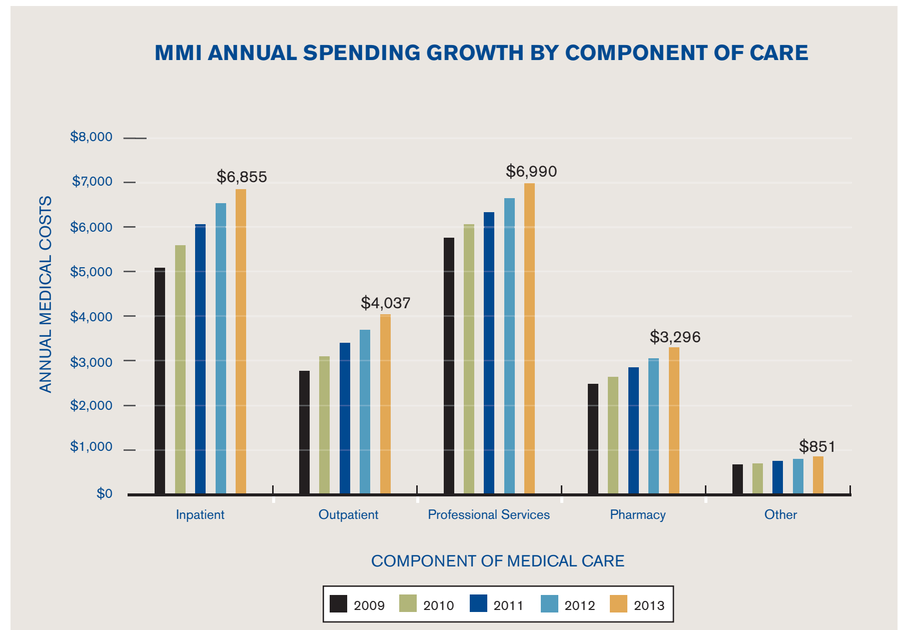
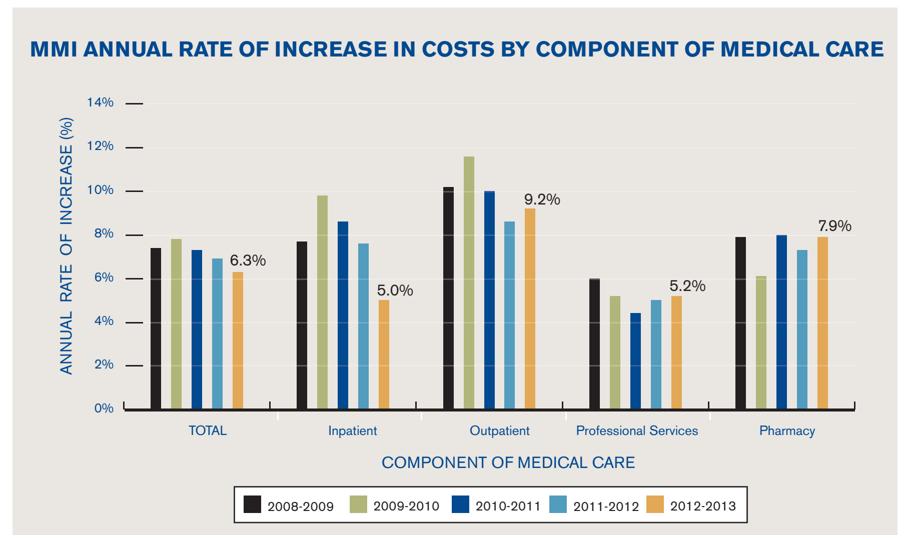


FIGURE 5



5 Medicare uses a $600 default threshold for defining specialty drugs.

A CHANGE TO THE GEOGRAPHIC COST ANALYSIS

Healthcare costs for any particular family will differ from those for the MMI typical family of four. To illustrate one of the ways costs differ, for the past several years the MMI report has included costs for 14 illustrative cities. This information is no longer included in the MMI report.

Over the years we have seen the MMI city numbers referenced in a number of different contexts. Sometimes those references have inappropriately implied that the published trend number in a given region is universally applicable to all populations in that region. With the transparency and regulation of the healthcare industry set to change dramatically in the next year, we are no longer publishing regional numbers. Projected trends and resulting insurance premium rates should be determined by the specific context of a given plan, including the demographic and health status of the population in the particular risk pool. Any extrapolation from the MMI for determination of a specific premium rate is inappropriate.

VARIATION IN THE COST OF HEALTHCARE

The Milliman Medical Index illustrates healthcare costs and the year-to-year changes in those costs by modeling healthcare expenses for a typical family of four covered by an employment-based PPO health plan. For any particular individual or group of individuals, healthcare costs can vary significantly from the MMI typical family. For example, costs vary by geography and also by healthcare delivery system within a geographic area. Access to advanced technology affects the utilization of services by geographic area. The relative cost of living also affects the cost, as labor costs (e.g., nurses and technicians) are higher in areas where the cost of living is higher.

In addition to geographic location, costs vary for a number of other reasons.

- Our MMI-illustrated family of four consists of a male age 47, a female age 37, a child age four, and a child under age one. This mix allows for demonstration of the range of services typically utilized by adult men, women, and children. Average utilization and costs of specific services will be different for other demographic groups.

- Claim costs vary according to health status. For example, claims for the 10% of persons that receive the greatest amount of care are more than seven times the average cost of care across all persons.

- The benefits represented by the MMI are average benefit levels for a typical PPO plan offered by an employer. However, some employees are not eligible for any health benefits through their employment. Unless eligible under a government program, they either purchase insurance in the individual market or pay for all care out of pocket. Other employees are covered under much richer benefit plans. These different levels of coverage affect the way employees consume healthcare and the costs associated with it. According to the 2012 Kaiser Family Foundation Employer Health Benefits Survey, of those workers in a plan having an overall deductible, 42% have a deductible of less than $500.[6] Please see the Employees' Share of Healthcare Costs section on page 5 of this report for further discussion regarding employee cost sharing.

- Provider charges can vary dramatically, both from one region to another and also from one hospital to another in the same city. Some hospital systems and physician systems have embraced episode-based reimbursements (e.g., case rates or capitations), while fee for service is more common in others. These different payment methodologies encourage different practice patterns which translate into different costs of care. For example, fee for service encourages providing more services while episode-based reimbursement is designed to encourage cost-effective delivery of care for the patient during the defined episode of care.

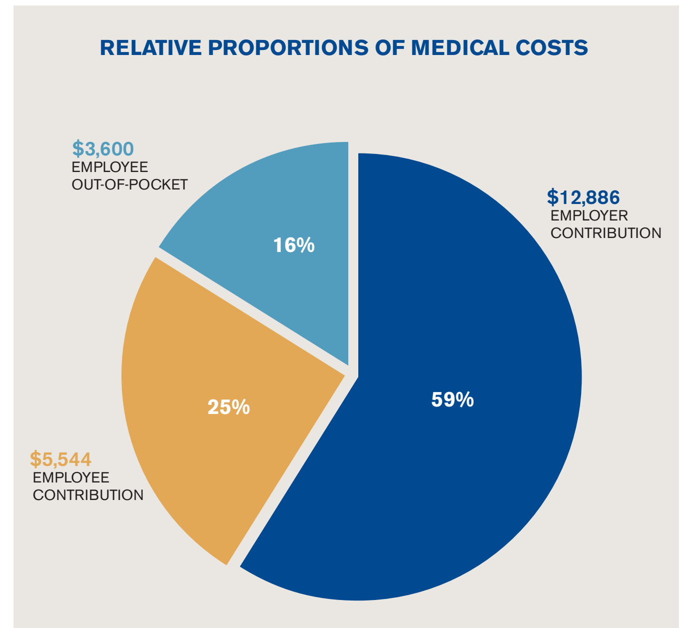
6 Kaiser Family Foundation. 2012 Employer Health Benefits Survey, Exhibit 7.9. Retrieved May 16, 2013, from http://kff.org/health-costs/report/employer-health-benefits-2012-annual-survey/.

EMPLOYEES' SHARE OF HEALTHCARE COSTS

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

- **Employer subsidy.** Employers that sponsor health plans subsidize the cost of healthcare for their employees by allocating compensation dollars to pay the largest share of the cost for healthcare. The portion paid by the employer typically varies according to the benefit plan option that the employee selects.
- **Employee contributions.** Employees who choose to participate in the employer's health benefit plan typically also pay a substantial portion of costs, usually through payroll deductions.
- **Employee out-of-pocket cost at time of service.** When employees receive care they also contribute to costs in the form of copays, deductibles, and other design elements that are paid out of pocket at the time of service.

FIGURE 6



There are several useful measures of health premium trends. The MMI is unique in that it measures total healthcare costs rather than just insurance premiums. Premiums exclude out-of-pocket costs at time of service that are borne entirely by employees. To form a complete picture, the MMI includes this important component of the healthcare cost-sharing puzzle (see Figure 8 on page 6) and more accurately illustrates the employer share versus employee share of the costs.

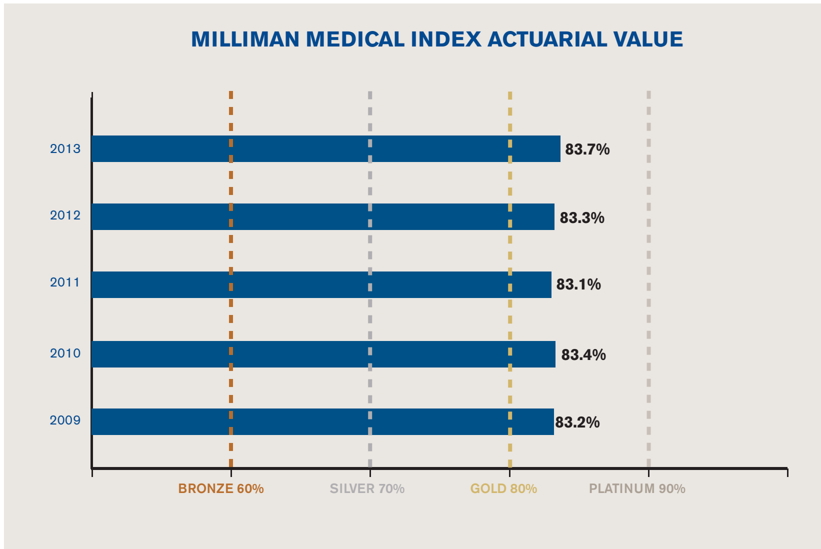
Employers continue to subsidize their employees' healthcare costs by paying an average of 59% of the total cost of healthcare in 2013. However, employee costs (combined employee contributions and out-of-pocket costs at time of service) have increased by a greater percentage than employer costs for five of the last six years. Plan design changes that affect the sharing of costs could include the employer shifting more of the premium cost to employees via payroll deductions and also the employer's benefit plan becoming less rich (e.g., higher copays at time of service).

Figure 6 shows the relative proportions of each of these three categories. Of the $22,030 medical cost for a typical family of four, the employer pays about $12,886 while the employee pays the remaining $9,144, which is a combination of $5,544 in employee contributions and $3,600 in out-of-pocket costs.

Out-of-pocket costs currently have a higher profile due to the ACA focus on "actuarial value," a concept predicated on the percentage of a plan's cost for essential health benefits (EHBs) that is paid out of pocket by the insured. The ACA introduced the concept of "metal levels" for benefit plans starting in 2014. Individual and small group policies provided on the state exchanges must have a metal level of "bronze" or higher; bronze implies that, on average, the plan will pay 60% of the costs for the 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, a threshold which is deemed "minimum value." As shown in Figure 7 on page 6, the Milliman Medical Index has an actuarial value of 83.7%.

Of the $22,030 medical cost for a typical family of four, the employer pays about $12,886 while the employee pays the remaining $9,144, which is a combination of $5,544 in employee contributions and $3,600 in out-of-pocket costs.

FIGURE 7



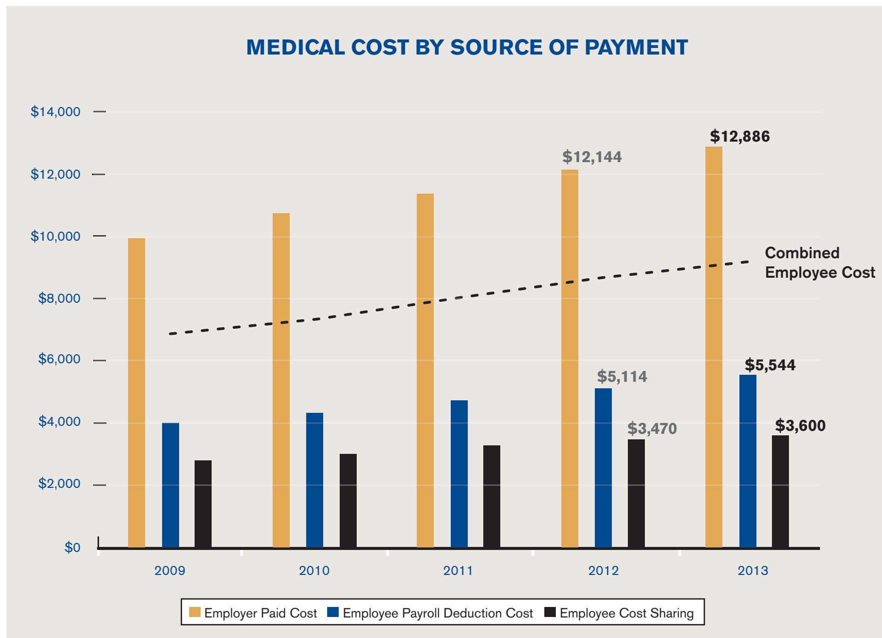
Although the MMI is not a metal plan per se, we offer actuarial values for comparative purposes. Since at least 2009, the MMI's plan has exceeded the gold level.[7] The MMI plan has maintained a relatively stable actuarial value over time because employers typically adjust their plan designs on an annual basis to keep pace with increases in the underlying medical trend. If no such adjustments were made and deductibles and copays remained static, the plan would become richer and would eventually exceed the "platinum" threshold.

In addition to a typical PPO plan, many employers offer their employees other plan options. A common alternative to a PPO is a "consumer-driven option" that includes higher out-of-pocket cost sharing in exchange for employer contributions to a health savings account and lower payroll deductions. Some believe that these kinds of high-deductible concepts lead to greater cost awareness by patients.

Along these lines, some plans that will be provided through the insurance exchanges in 2014 will have lower actuarial values than the type of plan exemplified by the MMI. It is also increasingly common to see plans that provide incentives for participation in wellness programs, as well as value-based plan designs that encourage compliance with appropriate treatments and medicines for persons with high-cost chronic conditions.

Figures 8 and 9 illustrate how cost sharing has evolved over time. Employers adjust benefits each year in line with their healthcare budget constraints. In 2013, employers assumed $742 of the total increase in the cost of care for the family of four. Employees saw a dollar increase of $560. The employee's 6.5% increase in the amount of out-of-pocket costs and payroll deductions was a smaller increase than the prior year for the second straight year. Employee out-of-pocket costs increased by 3.7% while payroll deductions increased by 8.4%. In other words, while both employer and employee costs increased, a larger portion of the shared increase was borne by the employee, primarily through the payroll deduction. In this manner, employers have funded the increase in costs while seeking to stay within company budget targets.

FIGURE 8



Employers continue to explore new strategies and tactics to address the ongoing cost-control challenge. Concepts under consideration may include increased use of defined contribution concepts, public or private exchange offerings, wellness programs with outcomes-based incentives, consumer-driven plans, and accountable care organizations (ACOs) or other concepts centered around efficient delivery of healthcare. More and more, employers are looking at plan designs and delivery system arrangements that can reduce the total cost of care being provided rather than

7 Gold represents a plan that pays an average of 80% of the cost of essential health benefits that must be provided by the plan. For a plan to be considered a gold plan, it must have an actuarial value between 78% and 82%. The MMI plan's actuarial value of 83.7% makes it richer than gold.

just having employees absorb more of the premium via payroll deductions and/or higher copays and deductibles.

FIGURE 9

ANNUAL INCREASE IN SPENDING SPLIT BY EMPLOYER AND EMPLOYEE PORTIONS	2009/08	2010/09	2011/10	2012/11	2013/12
TOTAL MEDICAL COST (EMPLOYER & EMPLOYEE)	7.4%	7.8%	7.3%	6.9%	6.3%
EMPLOYEE OUT-OF-POCKET COST SHARING	5.4%	6.6%	9.2%	5.8%	3.7%
EMPLOYEE PAYROLL DEDUCTION	14.7%	8.0%	9.3%	8.2%	8.4%
EMPLOYER PORTION	5.4%	8.0%	6.0%	6.7%	6.1%

HEALTHCARE REFORM

Since the passage of the ACA, we have seen little direct impact of the act on the cost of care for our typical family of four. It's reasonable to ask whether that may change somewhat in 2014 when the most far-reaching reforms land with a bang: Medicaid expansion, opening of insurance exchanges, and elimination of underwriting in the individual and small group markets, and introduction of financial penalties for not having insurance. But most of these new changes are focused on expansion of insurance coverage and ensuring that coverage is at least as good as a "typical" employer insurance plan. For an individual without insurance, the reforms may improve access and possibly subsidies that improve affordability. For currently insured individuals and small groups, the cost of insurance may increase or decrease as benefit plans change, new insureds enter the risk pool, and rating rules are applied. However, for employees already covered by a large group plan, such as our MMI family of four, changes in coverage might be noticeable but the cost of care will primarily see only indirect effects. This is summarized in Figure 10.

Over the long term, elements of the ACA that expand insurance coverage may help reduce the average cost of care per service. With fewer uninsured patients, there's potential to reduce the cost shifting that can sometimes occur in the current market as providers pass the cost of uncompensated care on to insured patients. However, to the extent uncompensated care is reduced, any reduction in cost shifting will likely take several years to materialize.

FIGURE 10

MAJOR ELEMENTS OF THE ACA AFFECTING THE COST OF INSURANCE OR THE COST OF CARE (2013-15)	COST OF INSURANCE			COST OF CARE
	Individual	Small Group	Large Group	
EXPANSION OF INSURANCE COVERAGE [1]	↑	NEUTRAL	NEUTRAL	?
ESSENTIAL HEALTH BENEFIT PACKAGE [2]	MIXED	MIXED	MIXED	NEUTRAL
NEW TAXES AND FEES	↑	↑	↑	↑
MORE PREMIUM RATE REGULATION	?	?	NEUTRAL	NEUTRAL
MINIMUM MEDICAL LOSS RATIO RULES	↓	↓	NEUTRAL	NEUTRAL
PROVIDER PRICE TRANSPARENCY	?	?	?	?

1 This includes the combined effects of Medicaid expansion, opening of insurance exchanges, and elimination of underwriting in the individual and small group markets.

2 The EHB package requirements apply to individual and small group. It requires that benefit plans cover all EHBs; provide benefits having an actuarial value of 60%, 70%, 80%, or 90%; and adhere to cost-sharing limitation rules. Large group plans only need to provide a minimum actuarial value of 60%.

One element of the ACA that holds some promise of affecting the market for healthcare and potentially slowing the growth in healthcare costs is an effort to improve the transparency around the prices of healthcare services. The recent release by the Centers for Medicare and Medicaid Services (CMS) of hospital charge levels for common services generated a lot of attention and helped highlight some of the eye-catching variations in charges among hospitals.[8] *Time* magazine also recently devoted an entire issue to exploring the costs of healthcare, primarily focused on hospital costs.[9] Whether these and other activities will actually help slow the growth in hospital costs is not perfectly clear, but they do promote discussion about the unclear correlation between price and value, and the fairness of a healthcare system that gives discounts to people who have insurance while attempting to collect full retail prices from those without insurance. Consumers and providers need to better understand the cost of the healthcare services being provided, as well as the other options and alternatives available to them. These efforts could help empower consumers to play a stronger role in getting healthcare costs under control.

8 Centers for Medicare and Medicaid Services (May 2013). Medicare Provider Charge Data. Retrieved May 10, 2013, from http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/index.html.

9 Brill, Steven (March 4, 2013). Bitter pill: Why medical bills are killing us. *Time*. Retrieved May 20, 2013, from http://www.time.com/time/magazine/article/0,9171,2136864,00.html (subscription required).

TECHNICAL APPENDIX

The Milliman Medical Index (MMI) is made possible through Milliman's ongoing research in 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 represents the projected total cost of medical care for a hypothetical American family of four (two adults and two children) covered under an 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[10]
- Utilization levels representative of the average for the commercially insured (non-Medicare, non-Medicaid) U.S. population

For further perspective on how the Milliman Medical Index fits in the evolving healthcare system, visit our blog at:

http://www.healthcaretownhall.com/?tag=milliman-medical-index

Variation in costs

While the MMI measures cost for a typical family of four, any particular family or individual could have significantly different costs. Variables that impact 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.
- **Individual health status.** Tremendous variation also results from health status differences. People with 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 areas because of differences in healthcare provider practice patterns and average costs for the same services.
- **Provider variation.** The cost of healthcare depends on the specific providers used. Costs also vary widely because of differences in both billed charge levels and discounts that payors negotiate.
- **Insurance coverage.** The presence of insurance coverage and the amount of required out-of-pocket cost sharing also affects healthcare spending.

10 For example, for 2013 average benefits are assumed to have an in-network deductible of $653, various copays (e.g., $125 for emergency room visits, $28 for physician office visits, $11/18%/26% for generic/formulary brand/non-formulary brand drugs), and coinsurance of 18% for non-copay services, etc.

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