MILLIMAN MEDICAL INDEX 2005

Milliman Inc. has completed its first annual study of the total annual medical costs for a "Typical American Family of Four." The Milliman Medical Index (MMI) measures the average spending by such a family if covered by an employer-sponsored PPO program. It provides a benchmark by annually assessing the changes in those costs over a five-year period. The MMI also examines the key drivers and the components of actual medical spending. The MMI breaks out and measures the rate of consumer (employee) spending versus the rate of total spending for healthcare services in a given year.

Most surveys focus exclusively on "employer" cost increases. While these increases are important, the MMI examines what it really costs the US economy to cover healthcare services under an employer-sponsored health benefits program, and how that burden is allocated between the employer and employees. Unfortunately, surveys of employer price hikes, while well-documented, typically have a specific focus, and can actually serve to mask the total cost of healthcare paid collectively by the benefit plan and by the employees.

The average annual medical cost for a family of four in 2005 is $12,214. (See Figure 1.)

Medical costs for a family are determined by the number of healthcare services that they utilize and the amounts that the employee's health plan pays medical providers for these services. Utilization of medical services for a particular family varies significantly based on the family's ages, geographic area, health status and, to some extent, random fluctuations due to unpredictable events. The MMI is based on analysis of claims costs for millions of members in a wide variety of areas of the country. The average cost of a particular healthcare service depends on the contract between the health plan and the individual healthcare provider. The MMI is based on estimated US average provider payment rates and Milliman's analysis of historical claim data and understanding of trends in provider contracting.

The average annual medical cost for a family of four increased by 9.1% from 2004 to 2005. The annualized rate of increase for the four year period 2001-2005 was 9.8%. (See Figure 2.)

FIGURE 1

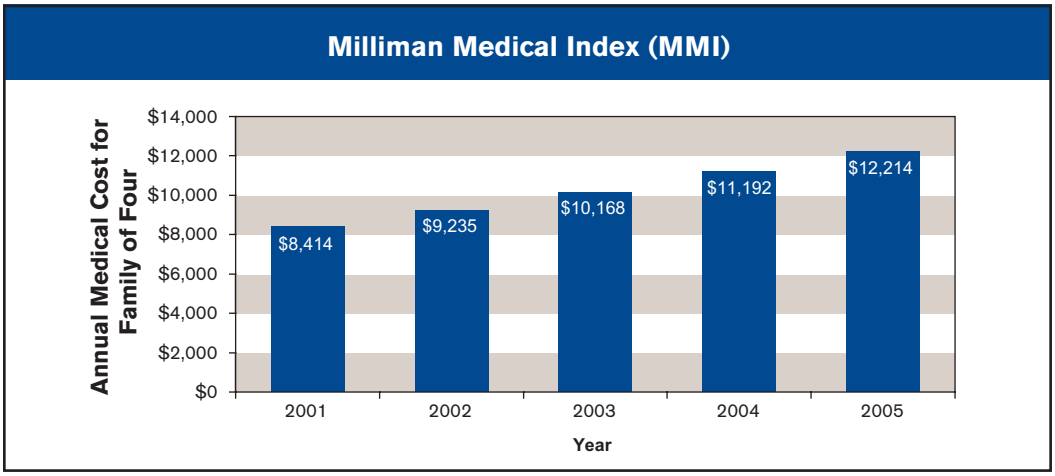
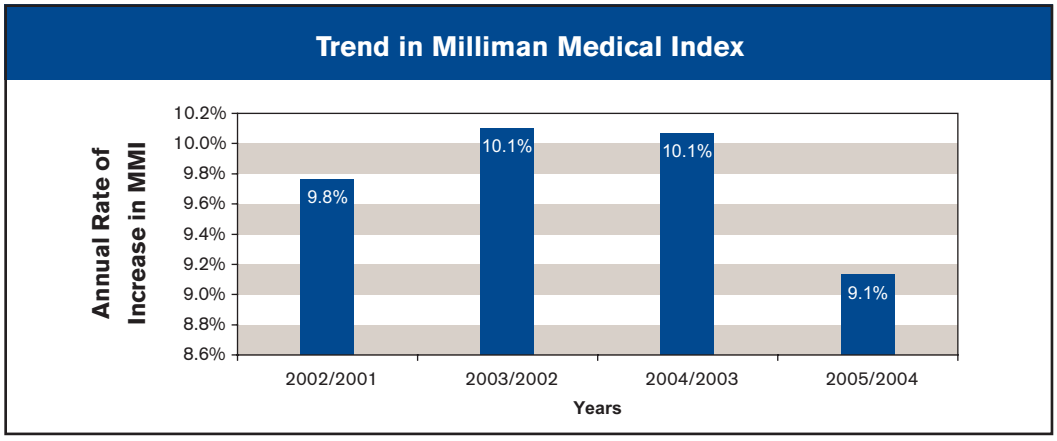


FIGURE 2



The key components of medical costs are inpatient hospital services, outpatient hospital services, physician services, prescription drugs, and other services, such as ambulance, durable medical equipment, private duty nursing, etc.

Figure 3 shows the distribution of total medical costs consumed by the typical American family of four. It contains both the portion of the costs paid by an employer's benefit plan and the portion paid by the consumer in the form of cost-sharing. In 2005, inpatient and outpatient hospital services combined represent 45% of the total annual medical costs, physician represents about 37%, prescription drugs about 15%, and other miscellaneous services represent 3%.

Medical costs are increasing at different rates from year to year. (See Figure 4.)

Pharmacy trends have received widespread attention over the past several years. The MMI shows a pharmacy trend from 2004 to 2005 of 12.8%, compared to a combined hospital inpatient and outpatient trend of 8.4% and a physician trend of 8.1%. (See Figure 4.) Over the past few years, pharmacy trends have remained among the highest, though hospital outpatient trends were quite high in 2002 and 2003.

Increases in dollars of spending show a different picture than trend rates. (See Figure 5.)

On a dollar basis, hospital services and physician services contributed $430 and $337 respectively to the increase in total medical costs between 2004 and 2005, while pharmacy's contribution was $203.

FIGURE 3

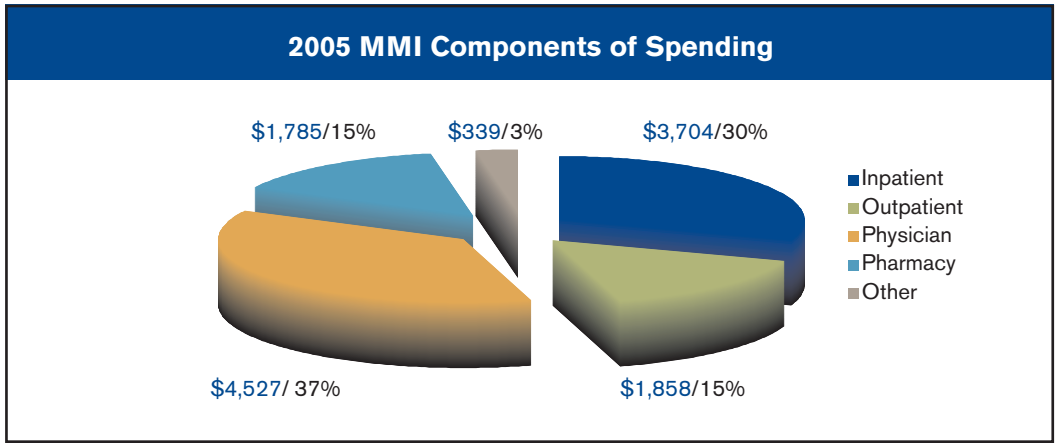


FIGURE 4

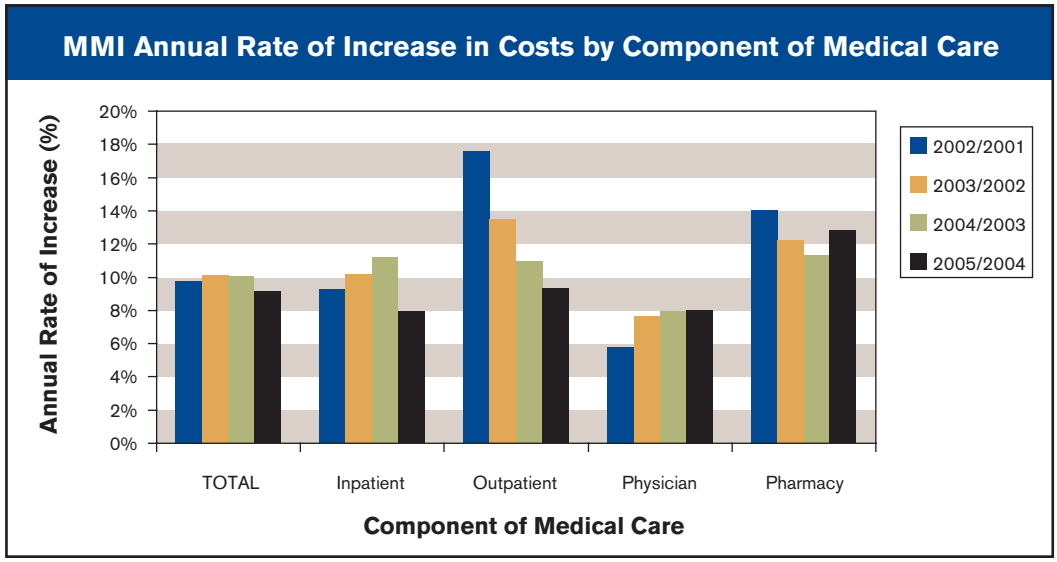
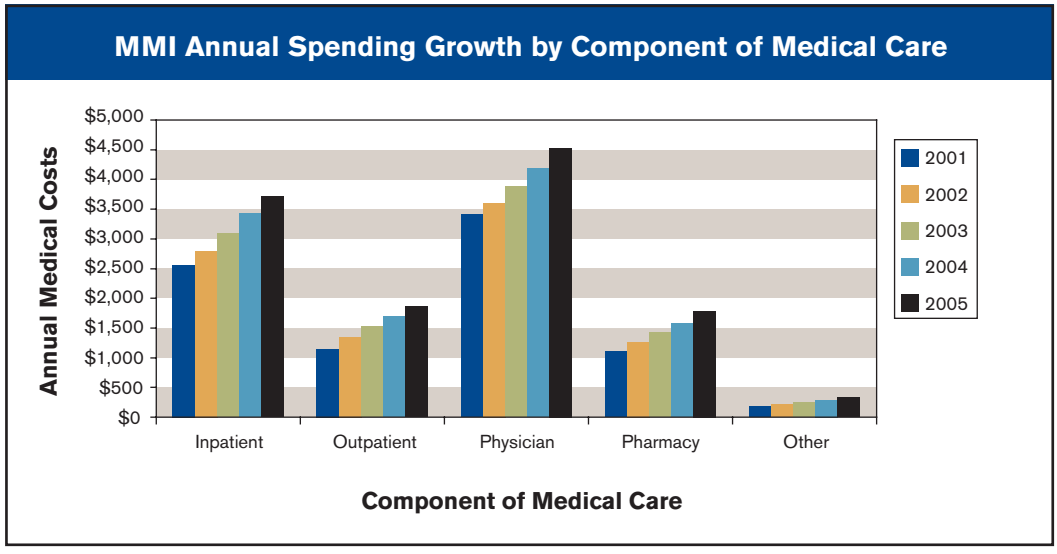


FIGURE 5



This shows the importance of focusing on the dollars of medical cost by component of care as much as the rate of increase in the cost by component. (See Figure 5 on page 2.)

Different drivers affect the trends for each component of medical care.

For inpatient hospital services, increasing trends are due to some or all of the following:

- New technology, often requiring larger expenditures by the hospital.
- Increased admission rates and lengths of stay, in part due to changes in health plan medical management as a response to consumer and provider expectations. Admissions and lengths of stay decreased steadily during the 1990s, but may have hit a floor in many parts of the country before increasing again through the early to mid 2000s.
- The need for hospitals to generate sufficient revenue from all sources combined to cover the increasing costs of operations, while revenue increases from some sources, such as Medicare, Medicaid, and uninsured patients do not keep pace with these increased costs.
- An increased ability by hospitals to negotiate more successfully with health plans. During the 1990s, health plans were generally very successful in keeping contracted rate trends low. This appears to have changed in the early 2000s for a variety of reasons.

Hospital outpatient services have also been affected by new technology, allowing more services to be performed outpatient versus inpatient. This has caused a continuing shift of services from inpatient to outpatient, making the observed increase in inpatient costs even more striking. Hospital outpatient services are often paid on a percentage of charges basis, and hospitals have continued to increase their charge levels significantly in the early 2000s.

Health plans have been fairly successful in maintaining relatively moderate trends for physician services. In many parts of the country, physician reimbursement is defined as a percentage of Medicare reimbursement. Over the past three years, Medicare reimbursement has been growing between 1.5% and 1.8% per year, and it appears that physicians have been able to negotiate increases over Medicare amounts.

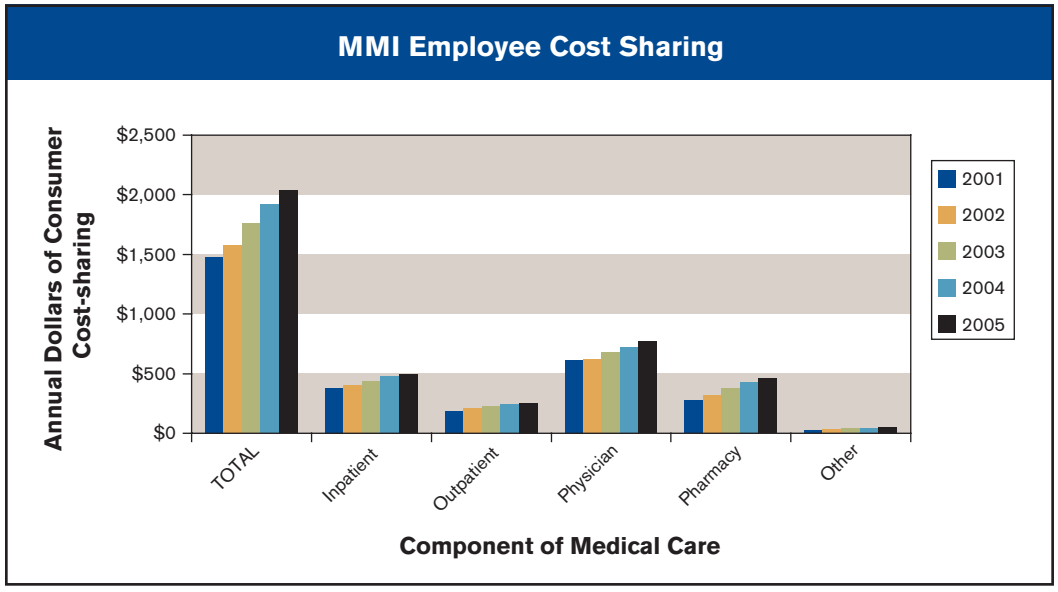
Prescription drug trends have been widely discussed. Among the drivers of these increases are the high cost of new drugs that are not available as generics, increased utilization, in part due to direct to consumer advertising, and the advent of new drugs to cover medical conditions that did not previously have a pharmaceutical treatment option.

As medical costs have increased, employees have paid an increasing dollar amount of costs. (See Figure 6.)

Employees pay for their share of healthcare costs in two ways. A portion of the benefit cost is paid through monthly payroll deductions. This is the foundation for many other surveys but it is not the focus of the MMI.

Second, once members start utilizing healthcare services, they pay cost-sharing amounts at the point of service. There are several common structures for cost-sharing, including HMO plans with dollar cost-sharing, and PPO plans that

FIGURE 6



typically feature dollar cost-sharing for regular physician services, but require the member to pay a percentage of costs for most other services. Based on a typical PPO plan design, Milliman estimates that out of the $12,214 total medical costs for 2005, a family would pay $2,035 out of their own pocket through member cost-sharing. (See Figure 6 on page 3.) Physician cost-sharing comprises the largest dollar amount of the $2,035, followed by hospital costs and then pharmacy costs.

Viewed as a percent of the cost for medical services, consumers are being asked to bear a larger share of the total cost of pharmacy services than other components of care. Figure 7 shows that the consumer share of pharmacy costs is about 25%, compared to an overall average cost-sharing around 15-16%.

Though consumer dollars of cost-sharing continue to grow, their percent of the total healthcare spending is actually shrinking.

While the dollar amounts paid by families for cost-sharing have increased over the last five years, they have not kept pace with the increase in total medical costs. In fact, as shown in Figure 8, the consumer's share of the medical cost dollar has increased at a slower rate than the total, except in 2003.

Future trends, including consumer-driven health plans.

As total medical costs continue to rise, employers will continue to look for ways to reduce costs, both for themselves and their employees. Employers are looking at ways to try to improve healthcare quality and reduce costs by sharing information aimed at educating their employees about the costs and efficacy of various medical services. Employers and health plans also continue to try to negotiate favorable rates with healthcare providers.

If these efforts are insufficient to keep employer cost trends at affordable levels, employers will continue to adjust employee contributions (both cost-sharing and premium sharing). While this has happened gradually in the recent past, some employers have concluded that this can only be done with a significant change in the traditional benefit plans being provided. This has led to increased interest in consumer-driven health plans (CDHPs), where members are given a spending account to pay for their own routine care, plus a high deductible plan to pay costs in catastrophic cases. Going from a traditional PPO plan to a high

FIGURE 7

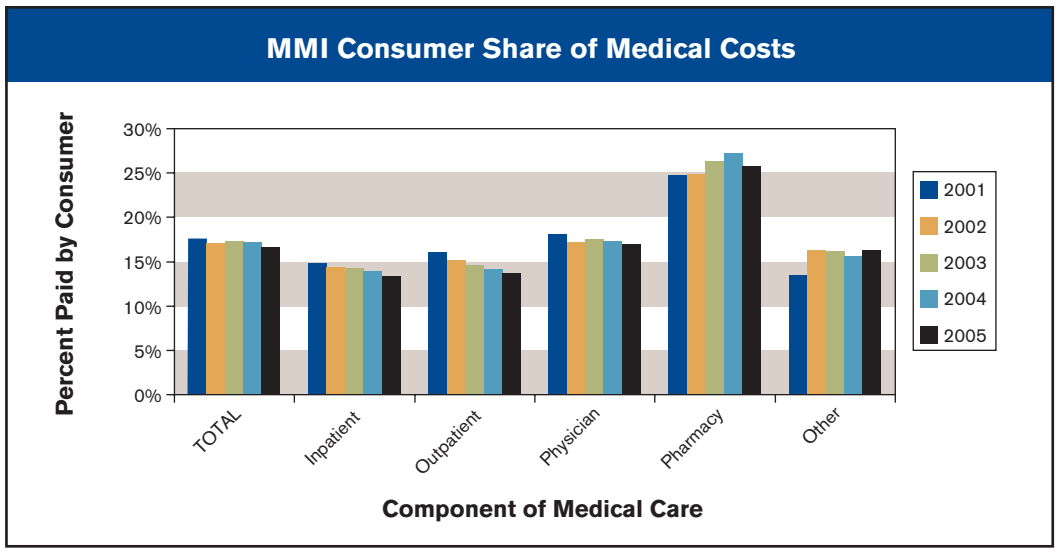


FIGURE 8

Milliman Medical Index
Annual Increase in Medical Spending

	2002/2001	2003/2002	2004/2003	2005/2004
Total Medical Cost	9.8%	10.1%	10.1%	9.1%
Consumer Share	6.8%	11.4%	9.1%	6.0%
Benefit Plan Share	10.4%	9.8%	10.3%	9.8%

deductible plan can have a substantial impact on the portion of annual costs paid by the member through cost sharing,

A key question regarding CDHPs is whether they will result only in a shift of costs from the employer to the employee, or whether they will affect the total annual cost of healthcare. Other key questions include:

- Will the fact that consumers have a greater economic stake in their healthcare cause them to take a more active role in evaluating their medical options and become more prudent users of healthcare services?
- By shifting more emphasis on member choice, will the contracted rates paid by health plans to providers increase due to a reduction in health plan bargaining power?
- If CDHPs are elected by only a small percentage of families, will these plans attract primarily healthier, low-cost individuals and thus have no real effect on the health costs for sicker families?

CDHPs have currently been adopted by relatively few employers and generally for only a portion of their workforces. Future issues of the MMI may address CDHP issues and costs in more detail.

The Milliman Medical Index report is available on our website, www.milliman.com.

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TECHNICAL APPENDIX – MILLIMAN MEDICAL INDEX

The Milliman Medical Index is a by-product of 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 *Group Health Insurance Survey.*

The MMI represents the total cost of medical care for a hypothetical American family of four (two adults and two children) covered under an employer-sponsored health benefit program, and reflects:

- nationwide average provider fee levels negotiated by insurance companies and preferred provider networks,
- average PPO benefit levels offered under employer-sponsored health benefit programs,[1] and;
- utilization levels representative of the average for the commercially insured (non-Medicare, non-Medicaid) US population.

The MMI includes both the cost of services paid under an employer health benefit program as well as costs borne by employees in the form of deductibles, coinsurance, and copayments. The MMI represents the total cost of payments to healthcare providers, the most significant component of health insurance program costs, and excludes the non-medical component of health plan premiums. The MMI includes detail by provider type (hospitals, physicians, pharmacies), both in terms of utilization, negotiated charges, and per capita costs, as well as how much of these costs are absorbed by employees in the form of cost sharing.

2005 is the first year of the MMI. For historical context, we have used the MMI methodology and prior research data to create MMI values for 2001-2004.

The MMI incorporates proprietary Milliman studies to determine representative provider reimbursement levels by year, and utilizes *The Kaiser Family Foundation/Health Research and Educational Trust Annual Employer Health Benefits Survey (Kaiser/HRET)* to assess health plan benefit level changes by year.

Launched more than 40 years ago, the *Health Cost Guidelines* are an industry standard, now used by more than 90 insurers to estimate expected health insurance claim costs. The seven-volume publication includes utilization rates for specific services, and variations in costs in different parts of the country and within the same state—critical data used by traditional health carriers and managed care organizations for product pricing. In addition, the *Guidelines* provide utilization benchmarks for managed risk arrangements. The *Guidelines* are updated annually from core data sources, which contain the complete annual health services of more than 15 million lives as well as various specialized proprietary databases. Milliman invests more than $2 million annually updating the *Guidelines.*

Milliman's *Group Health Insurance Survey* (formerly the *HMO Intercompany Rate Survey*), launched in 1992, provides the industry's only annual survey measuring rate levels and experience for a uniform population and benefit design for HMOs, PPOs, and Consumer Driven Health Plans (CDHPs) from across the nation. Survey results are provided by metropolitan statistical area (MSA), state, region, and nationwide. The survey is used by managed care organizations nationwide to compare their rate levels and experience with those of their competitors, and includes utilization rates, costs of care for physician and hospital services, and trends in rate levels.

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[1] e.g., for 2005, in-network deductible of $285, various copays (e.g., $50 for emergency room visits, $17 for physician office visits, $10/25/35 for generic/formulary brand/non-formulary brand drugs), coinsurance of 15% for non-copay services, etc.