Greater Milwaukee Business Foundation on Health, Inc.

Factors Contributing To Higher Hospital Inpatient Payment Levels in Milwaukee

Foundation Board Conclusions and Recommendations to Improve the Cost Efficiency of Milwaukee's Health Care
June 28, 2006

Introduction

The Greater Milwaukee Business Foundation on Health, Inc. (Foundation)[1] released "The Cost Efficiency of Milwaukee's Health Care" on March 17, 2005, an analysis of costs paid by private insurers and self funded-employers from 2002-2003.[2] This study updated and expanded the Foundation's prior study of 1999-2000 health care costs[3] and confirmed that Milwaukee-area medical costs continued to be substantially higher than in similar Midwestern cities. These findings of substantially higher provider net fees in Milwaukee are consistent with other recent studies.[4]

As a result, in mid 2005, the Foundation requested that Milliman further compare 2003 inpatient hospital costs in Milwaukee with eight other Midwest cities. Using a comparative methodology that was well received at the March 17th presentation, Milliman's analysis confirmed that Milwaukee's inpatient hospital costs were comparable to the highest in the comparison group and significantly higher than the lowest cost markets.

To better understand the underlying causes of higher inpatient hospital costs in Milwaukee, the Foundation engaged Milliman to compare elements of the health care environment between Milwaukee and Cincinnati, Detroit and St Louis, three cities with lower inpatient costs for which comparable environmental information was available. Milliman's study compared more than a dozen socioeconomic, structural and financial elements of the payer and hospital environment across the four cities to determine which were associated with higher inpatient costs.

Conclusions from Milliman Study

Milliman concluded there was no single factor substantially responsible for Milwaukee's higher inpatient hospital costs. The study identified that Milwaukee's relative cost position was predominantly the result of the *interaction and balance* of five factors which resulted in stronger upward price pressure from hospitals and less downward price pressure from health plans and other commercial purchasers (payers) in Milwaukee than was present in the other study markets. The balance of those factors in the comparison markets resulted in lower average inpatient hospital payment levels than in Milwaukee.

The five factors in no priority of order were:

- Payer Market Concentration – Milwaukee's payers generally had smaller market shares (and likely less price negotiation leverage) than found in most of the study cities.

- Hospital Risk Sharing – Payer contracts with hospitals in Milwaukee were more likely to shift risk for certain types of hospital operating cost increases to payers than in other cities.

- Hospital Operating Costs – Per unit hospital operating costs in Milwaukee were 14 to 26 percent higher, even after adjustment for wage rate differences among the cities.

- Provider Configuration – Milwaukee's provider systems tended to be more geographically concentrated than in the other study cities. Milwaukee tertiary hospital market shares were more widely distributed among all hospital systems than in the other cities.

- Governmental Cost Shift Burden – Milwaukee's largest health systems had a greater burden for governmental payment shortfalls than the largest systems in other cities.

A copy of Milliman's complete report to the Foundation, *Factors Contributing to Higher Hospital Inpatient Payment Levels in Milwaukee*, is available after May 30th from the Foundation at www.gmbfh.org/news.php. The Foundation encourages you to read the report in its entirety. Although it is somewhat technical in nature, the report contains important information that is needed to understand the complexity of the Milwaukee health care market and Milliman's specific findings.

Foundation Observations

Study applicability: Although the study is limited to inpatient hospital costs, the Foundation believes it is likely to apply to outpatient hospital costs as well. However, it should be generalized with caution to other types of care (for example, non-hospital physician or ambulatory care). A second study comparing ambulatory care prices with market environment factors has been commissioned by the Foundation for release this summer.

Significance: The community should use the results of this study to help it develop greater insight into those circumstances that have contributed to Milwaukee's high health care costs. More importantly, the community should use these findings to develop solutions that improve our competitive economic environment.

Milwaukee area employers, citizens and health care organizations should view their health care system as an asset that strengthens the community rather than a liability that undermines economic success.

Many individual components of Milliman's latest study on behalf of the Foundation have already been known, understood and even commented on publicly to some degree by different members of the Milwaukee health care marketplace. On occasion, there have been public and private discussions to develop strategies to address individual elements with the intent of lowering Milwaukee area health care costs. Few of these efforts have resulted in significant improvement of Milwaukee's health care cost position relative to other similar Midwest cities. Most of these efforts have resulted in increased frustration, intensified finger pointing and continued erosion of the local economic landscape.

Most previous efforts to address Milwaukee's health care costs have failed to address the core element of Milliman's findings – it is the *relative balance and interaction* of five key market factors that is the primary driver of our high health care costs, not the presence of extraordinary circumstances.

There is no single "magic bullet" that will change Milwaukee's current costs. It is necessary to address each factor identified by Milliman if the Milwaukee region is to see meaningful change in local health care costs. Given the *interaction and balance* of the factors and that time is of the essence, as many factors as possible should be addressed simultaneously rather than sequentially, one following another. Ultimately, future efforts to lower costs or mitigate cost increases that don't address all five factors over time will likely have the same effect as squeezing one part of a balloon only to see it expand elsewhere.

It is also the Foundation's observation that the relative balance of the factors identified in the Milliman report is the result of each employer, payer, provider and community optimizing their own interests under existing incentives. Each constituency has generally acted rationally under the circumstances, yet each has contributed substantially to our current situation.

In other communities, similar actions have resulted in more favorable cost positions. In the Milwaukee area, these dynamics have come together in a different way to produce a less desirable result. If all in the community continue to manage and behave as they have in the past, this will only intensify our problems. In order to convert the costs of our local health care system from a liability to an asset, it is necessary for each constituency to subrogate its current strategy of self-optimization to the overall success of the region.

Foundation Recommendations

In summary, the Foundation believes that the reasons for Milwaukee's higher cost levels versus Cincinnati, Detroit and St. Louis can simply be described as follows:

> These lower price markets have payers that have the ability to exert significant downward pressure on negotiated commercial prices and/or providers that lack the need and/or ability to push prices higher. Milwaukee has the opposite situation with payers that lack the ability to prevent higher prices and providers with the ability and/or the financial need to negotiate higher prices.

The Foundation has given considerable thought to the findings from the Milliman study and developed the following recommendations for reducing the Milwaukee area's health care costs to levels consistent with the lower cost Midwest Cities:

- Aggregation of Purchasing Power – The Foundation believes it is absolutely essential that Milwaukee area employers, payers and governmental entities take the steps necessary to increase their aggregate purchasing power. Milwaukee's relatively fragmented payer market lacks the ability to exert the level of downward pressure on health care costs present in the lower cost markets.

  In some of the other markets, payers appear to be of a sufficient size that hospital systems risk significant reduction of commercial market share if they are excluded from payer networks. In Milwaukee, health systems have withdrawn or been excluded from networks without significant adverse consequences.

- Redistribute Risk for Hospital Operating Cost Increases – At the time of the Milliman study, common commercial insurance payment methods in Milwaukee (e.g. percentage discounts off billed charges) placed payers at greater risk for increases in inpatient hospital operating costs when compared to the fixed payment approach used in the lower cost cities. The Foundation contends that the relatively strong negotiating leverage held by the Milwaukee area health systems is likely a significant reason that the payment terms are structured to put payers at risk for operating costs. While the Foundation understands Milwaukee's hospital contracting structure is starting to change, it believes it is essential that the hospitals in Milwaukee accept fixed price contracts that place the hospitals at risk for increases in hospital operating costs, similar to the contracts in the low cost markets.

- Reduce Hospital Operating Costs – Milliman's study concluded that Milwaukee per-unit hospital operating costs (labor, supplies, depreciation, interest, etc), after adjustment for wage rate differences, were 14 to 26 percent greater than those in the lower cost cities. The Foundation believes that these higher levels of hospital operating costs are likely due to the lack of financial risk held by the hospitals for operating cost increases under current contracts. The Foundation recommends Milwaukee area hospitals commit to verifiable reduction of per-unit operating costs to a level equal to the average of Midwest Cities within three years and to the lowest quartile of Midwest cities within 5 years with a corresponding reduction of commercial fees.

- Increase Competition for Non-tertiary Health Services – The Milliman study indicated that the geographic concentration of the hospital systems throughout the Milwaukee region was greater than typically found in the other Midwest cities. This concentration within a geographic area is generally applicable in the Milwaukee region to both larger and smaller hospital systems. However, unlike in the other markets, the Foundation believes that this configuration results in the smaller systems in Milwaukee having substantial negotiating leverage with payers as a result of their individual geographic concentration.

As a result, Milwaukee area residents were less likely to have comparable access to hospitals from different health systems than residents of the other cities. Purchasers who require convenient access for their enrollees have less negotiating leverage with the dominant provider in each area and are less likely to negotiate significant price concessions from other providers interested in increasing market shares. This diminishes price competition.

Ongoing debate within the community has suggested that the investment required by health systems to increase competition for hospital and other health services would simply result in unnecessary cost increases. Contrary to this perspective, the Foundation believes that increased competition among all systems for regularly utilized, health care services including primary care physician office visits, routine diagnostics and non-tertiary hospital services should be encouraged, particularly in those areas of the market with limited choices among health systems.

Milwaukee's high hospital cost experience with our current, geographically concentrated health system configuration compared to the other Midwest cities' lower cost experience with more geographically competitive health system configurations strongly suggests that Milwaukee area payers will not be able to negotiate favorable prices for the majority of hospital and physician services in the absence of reasonably convenient competitive alternatives in all geographic areas with significant commercial populations.

However, the Foundation does not endorse increased competition for all hospital services. Milliman's study also indicated that the tertiary hospital services in the other Midwest cities tended to be more concentrated within fewer hospital systems as compared to Milwaukee where most tertiary services are provided by one or more hospitals within each hospital system.

The Foundation opposes further expansion of lower volume, tertiary services to more hospitals within the Milwaukee area. It also encourages each Milwaukee area health system to evaluate the cost savings that would result from consolidation or closure of tertiary programs that operate at volumes less than community averages. Duplication of these high cost, infrequently utilized services throughout the area likely increases operating costs, decreases quality and exacerbates cost shift differences between health systems without providing sufficient offsetting price reductions.

Throughout this document, the constituents of healthcare are continually identified as employers, payers, providers and government. However, collectively, all the individual patients receiving health care are an important constituency as well.

To the extent they seek care and expect it to be as geographically convenient as possible, they contribute materially to the complex, interactive relationship of the identified factors. While their expectations are understandable, it is imperative that they be given incentives and the necessary information to act as responsible consumers of health care.

- Equalization of Cost Shift Burdens – Milliman's study indicated that the overall relative impact of governmental payment deficits and uninsured burdens on hospitals was similar among the Midwest cities. However, the distribution of this burden among Milwaukee hospitals was less uniform than in some of the other study cities. The larger systems in Milwaukee are those with a greater presence in the economically depressed sections of our region. Therefore, they require higher commercial prices to offset their greater cost shift burdens as compared to large systems in other Midwest Cities with lower cost shift burdens.

  Concentration of these burdens on hospital systems with strong influence on overall market pricing has the impact of increasing overall market hospital prices to higher "ceiling" levels than would be necessary if more of the burden was distributed to hospitals with less influence on overall market price levels.

  Considering the need to lessen their cost shift burden through access to a better payer mix, i.e., less Medicare, Medicaid and indigent care, it is not surprising that the hospital systems with significant presence in economically depressed sections of Milwaukee are making efforts to expand to the surrounding suburban communities. It is also not surprising that the hospital systems with more favorable payer mixes are not actively seeking to expand into the economically depressed areas of Milwaukee.

  The Foundation contends that the higher prices required by the larger systems to offset their cost shift pressures also creates the opportunity for the smaller systems to use their negotiating leverage (due to their geographic market concentration) to take advantage of the higher "ceiling" price levels established by the large systems.

  The Foundation believes equalization of this imbalance of cost shift burdens between health systems is essential to significant improvement of Milwaukee's overall health care cost position. The Foundation strongly encourages payers and providers (and governmental units, if necessary) to develop meaningful methods to resolve this situation.

  More than any other of the five critical factors, this situation demonstrates the need for a regional solution. Like many other key issues impacting long term economic growth, Milwaukee and its suburban communities must collaborate rather than act separately from each other. While the problem might easily be solved if the Federal and State government paid more of their fair share, it is highly unlikely that significant increases in government payments to health care providers will occur in the foreseeable future.

A Collaborative Market Approach With Specific Action Steps

The Foundation believes that the region's current adverse health care cost position should be improved through collaboration among all constituencies having a stake in our region's health care costs and economic success. This collaborative approach requires recognition of the following:

- Each constituency must make meaningful changes to its current approach to the market.
- Each constituency must cooperate with the others for the long-term benefits of the community.
- Each constituency must hold itself and the others accountable for participating in the solution to the region's current health care cost crisis.

The following are critical elements of any successful effort to improve the Milwaukee area's health care cost position relative to a level consistent with the lowest cost Midwest Cities:

- **Employers and payers** must develop a coordinated approach for purchasing health care that:

  * Aggregates purchasing power.

  * Provides meaningful competitive advantages to providers who accept a fixed price for services.

  * Uses benefit plan designs that include features such as provider tiering, higher deductibles and percentage based co-payments to create greater price awareness among enrollees and increase competition among geographically concentrated providers.

  * Includes meaningful mechanisms to reduce cost shift differences among Milwaukee area health systems.

  * Provides meaningful rewards for providers who increase competition for routine services and penalizes providers who further concentrate high market shares for routine services.

- **Milwaukee area health systems** must contribute to the immediate and long term economic health of the community by:

  * Accepting accountability and risk for operating cost management consistent with health systems in lower cost Midwest cities by agreeing to fixed price contracts with all payers with a significant local market presence.

  * Reducing average per unit operating costs to Midwest city averages within three years and within the lowest quartile of Midwest cities within 5 years.

  * Directing expansion efforts towards projects that increase competition for routine health services instead of further concentrating market share in areas of limited competition.

* Consolidating tertiary programs with volumes less than regional averages.

* Committing to equalization of the differences in cost shift burden among health systems through:

  - redistribution of the volume of services provided to governmental and self pay patients among health systems, or

  - direct economic support to providers who serve higher percentages of governmental pay patients, or

  - acceptance of payments for services to commercial patients that reflect the actual cost of their own cost shift burden when compared to the cost shift burden of the other health systems.

- **Milwaukee area communities** must contribute to the resolution of the region's health care cost crisis by:

  * Eliminating regulatory barriers to increasing competition for routine health care services (but not necessarily for duplicative tertiary services).

  * Increasing efforts to improve overall community health and reduce health care costs.

  * Facilitating community collaboration to develop methods to reduce the overall impact of cost shifting and the differences in cost shift burden among health systems.

- In addition to the specific actions outlined above, the Foundation strongly encourages **each constituency** to:

  * Participate in efforts to share utilization data from employers, health plans, and providers to help lower overall costs.

  * Establish effective methods to provide meaningful price information to health care purchasers and decision makers.

  * Cooperate with all efforts to expand the number of jobs in Milwaukee to minimize future increases in market wide cost shift pressures.

  * Hold each other accountable for contributing to significant improvement of the Milwaukee area's health care cost levels.

  * Encourage adoption of healthier lifestyles for all area residents as a means of reducing health care costs for the entire community.

Adoption of healthier lifestyles by all members of the community is needed to reduce overall health care costs and should be encouraged at every opportunity. However, it is important to recognize that relying on this strategy as the sole or dominant method of improving the region's health care cost position has substantial risk as its benefits are typically experienced over long periods of time.

Conclusion

The region's current health care cost position is a severe threat to the short and long-term viability of area employers, payers, providers and citizens. If current trends continue, each constituency faces diminishing chances of individual success and the community faces collective failure.

This study helped identify that Milwaukee's relatively high health care costs are associated with an interrelated, self-reinforcing set of factors. No single "magic bullet" solution exists, nor can any single entity act alone effectively to resolve the vicious cycle of escalating costs. Individual rational actions of the various health care constituencies in this setting are more likely to perpetuate than resolve these issues. A collaborative response across the region is needed.

As a community, we have two choices going forward. We can continue to manage as we have in the past, (i.e. optimizing our short term individual positions), while contributing to the overall deterioration of our community. Alternatively, our second option, and the only one that offers the potential for substantial, long-term success for everyone, is for all health care stakeholders to work aggressively together to make the changes we have suggested.

It is not too late to dramatically improve the region's health care cost position. However, it is important that we act quickly. **The region has all the components to be a best performer and all its constituencies should act together to make it one**.

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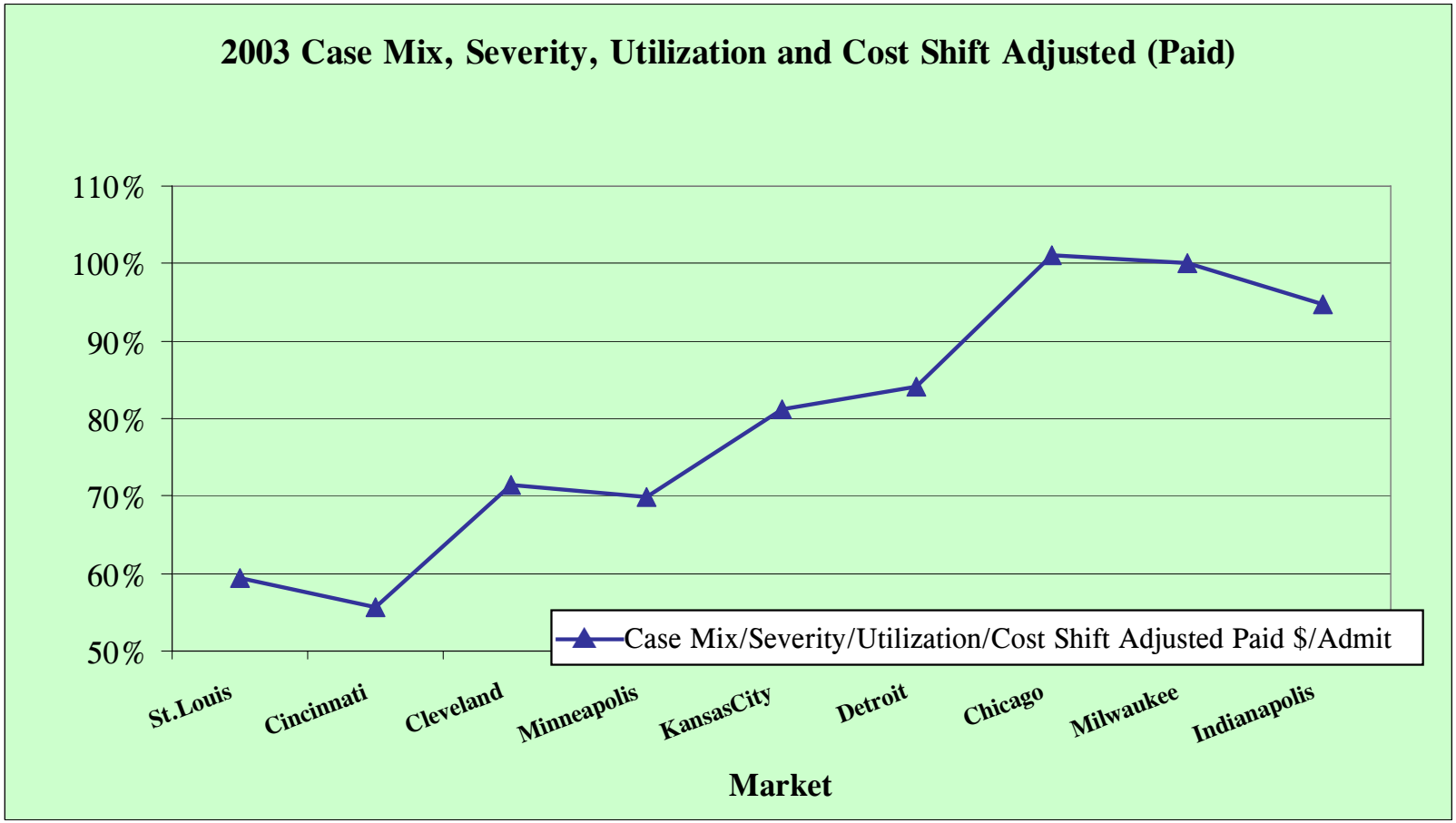
[1] The Greater Milwaukee Business Foundation on Health, Inc. is a community-focused private operating foundation with the mission of undertaking studies, programs and activities that promote the general health of the persons residing in the greater Milwaukee area and advance their awareness of health, health care costs and health care delivery issues affecting them. Contact James Wrocklage, Executive Director at gmbfhinc@aol.com for more information.

[2] Commissioned by the Foundation and performed by Mercer Human Resource Consulting and Milliman Consultants and Actuaries, based on comparison of 2003 Milwaukee area healthcare claims and costs with those from similar Midwestern cities. Available at http://www.gmbfh.org/news.php

[3] Commissioned by the Foundation and performed by Mercer Human Resource Consulting based on comparison of 1999 and 2000 Milwaukee area healthcare claims and costs with those from comparison Midwestern cities. Available at http://www.gmbfh.org/news.php

[4] Milwaukee Health Care Spending Compared to Other Metropolitan Areas:
Geographic Variation in Spending for Enrollees in the Federal Employees
Health Benefits Program (US Government Accountability Office, August, 2004); Federal Employees Health Benefits Program: Competition and other Factors Linked to Wide Variations in Health Care Prices. (US Government Accountability Office, August, 2005); Finkler MD. The High Cost of Health Care in Milwaukee: A Comparative Study of Milwaukee and 19 Other North Central Cities (Public Policy Forum, May 2003)

Hospital Inpatient Payment Comparison



This graph contains information included in Milliman's report to the Greater Milwaukee Business Foundation on Health dated April 26, 2006. Please refer to the full report for a description of study methods, assumptions and limitations.

Greater Milwaukee Business Foundation on Health

Factors Contributing to Higher Hospital Inpatient Payment Levels in Milwaukee

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April 26, 2006

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Study Objective and Methods

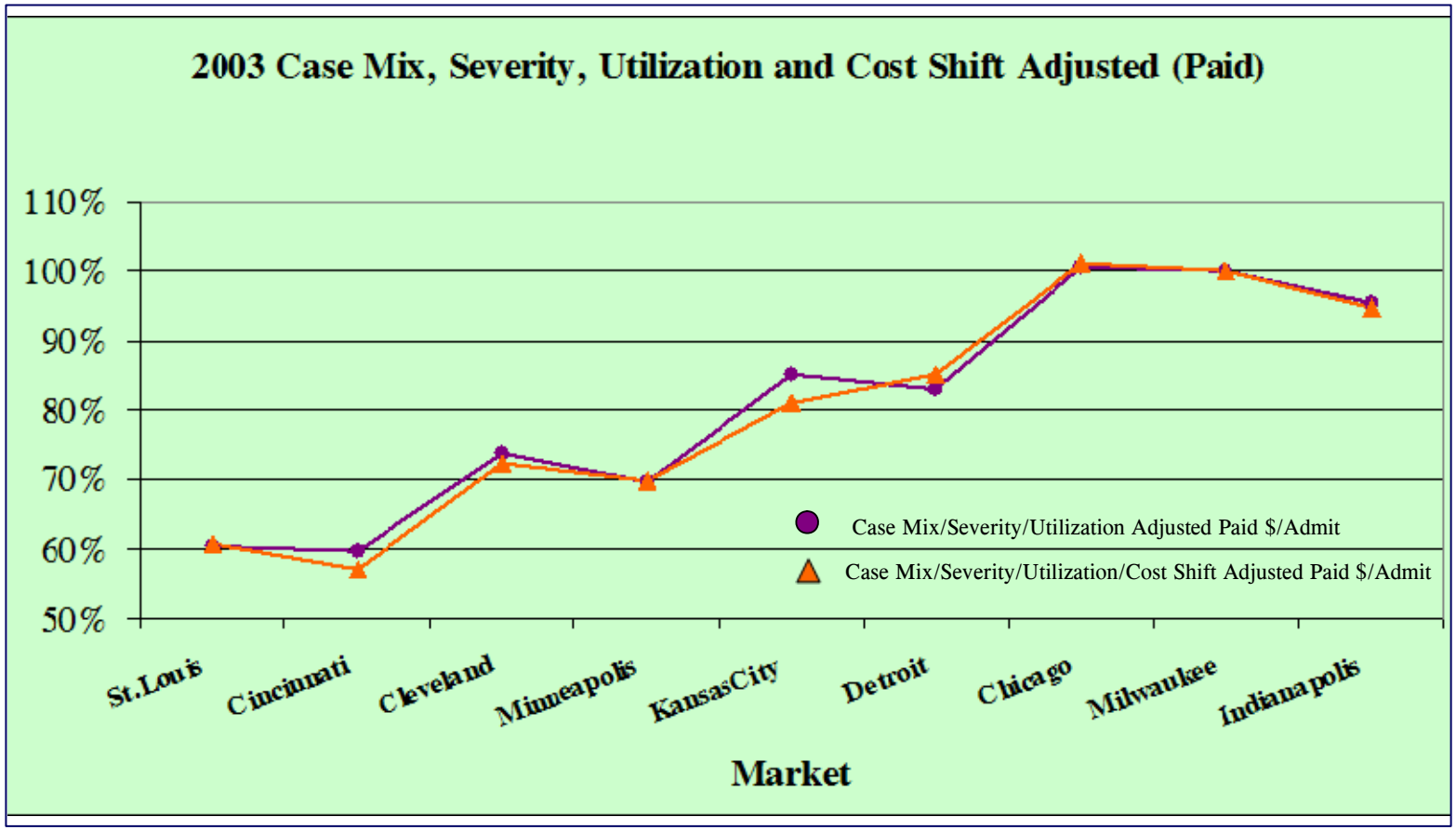
Hospital Inpatient Payment Comparison

- Study Objectives
  - To compare Milwaukee hospital inpatient payment levels to other Midwest cities, and
  - To identify causes of higher hospital inpatient payment levels in Milwaukee as compared to certain other Midwest cities.

Hospital Inpatient Payment Comparison
Measurement Baseline

- 2003 hospital inpatient payment levels per discharge adjusted for:
  - Case mix and severity
  - Utilization efficiency (potentially avoidable days)
  - Business (payer) mix
- Comparisons to baseline stated as percentage of Milwaukee average payment levels (= 100%)
  - If market is 90%, then measure is 10% below Milwaukee average

Hospital Inpatient Payment Comparison



Goal of More Detailed Comparisons

- Evaluate potential causes of hospital inpatient payment level differences by comparing Milwaukee hospitals and market characteristics to:
  - Cincinnati
  - Detroit
  - St. Louis
- Identify factors most likely to contribute significantly to inpatient payment level differences

Hospital Inpatient Payment Comparison

What's Not Included

- Comparison does not include:
  - Quality or outcomes
  - Changes since 2003
  - Physician or other non-hospital services/supplies
  - Specialty (psych, rehab, etc.) or VA hospitals

Areas of Study

- Analyzed components of:
  - Demographics
  - Public hospital impact
  - Pediatric hospital impact
  - Wage rate differences
  - Payer market configuration
  - HMO presence
  - Hospital payment terms
  - Hospital outpatient payments
  - Hospital market configuration
    - Systems
    - Tertiary services
    - Geography
  - Cost shift pressures
  - Hospital operating cost levels
  - Hospital capital costs
  - Hospital profit levels

Hospital Inpatient Payment Comparison

Data and Information Sources

- Claim data for hospitals in each market available to Milliman
- Purchased hospital financial data base, benchmarking guides, statistical references
- Medicare wage index and cost formula from CMS
- Purchased market surveys of insurance coverages
- U.S. Bureau of Census data
- State hospital association, payer and provider website information
- Newspapers and other publications
- Discussions with persons knowledgeable about the market(s)

Interpretation Considerations

- The evolution of each market has been different
- Each market is unique
- Market attributes are relative, not absolute
- Many attributes of each market are interdependent

Hospital Inpatient Payment Comparison

Caveats

- Results pertain to inpatient commercial payment levels only
- Results were developed using data that we did not audit
- Factors in this study are highly interdependent
- Did not attempt to determine cause, effect or timeline of related factors (i.e., which factors may have caused other factors to be present).

Findings

Overview of Findings

- No single factor or attribute entirely explains the hospital payment level differences between Milwaukee and the other markets
- Interdependence and relative balance of certain factors appear to significantly affect hospital inpatient payment levels in the study cities

Contributing Factors to Milwaukee's Higher Inpatient Hospital Levels

- Greater financial pressure on larger hospital systems resulting from:
  - Poorer payer mixes than the market average
  - Financial losses from "poor payer mix" hospitals
- Higher hospital operating cost levels
- Significant geographic concentration of individual hospital systems
- Relatively low market concentration of individual commercial insurers
- Hospital payment terms which shift more risk for certain types of hospital cost increases to payers

Comparison of Contributing Factors to Milwaukee's Higher Hospital Inpatient Payment Levels

	Milwaukee	Cincinnati	Detroit	St. Louis
Greater cost shift pressure on largest systems	YES	NO	YES	NO
Higher overall hospital operating cost levels	YES	NO	NO	NO
High hospital system market concentration:				
- Larger systems	YES	YES	NO	YES
- Geographic submarkets	YES	NO	NO	NO
Lower payer market concentration	YES	NO	NO	YES
Payment terms which shift risk to payers	YES	NO	NO	NO

Analysis

Market and Payer Factors

Summary of Market Differences

Market and Payer Factors

	Cincinnati	Detroit	St. Louis
Favorable Demographics	0	-	0
Public/Pediatric Hospital Presence	0	0	0
% Fixed Inpatient Prices	+	+	+
Outpatient Payment Levels	-	-	-
Payer Concentration	+	+	0
HMO Market Penetration	0	+	0

KEY

(+) Higher than Milwaukee

(0) Comparable to Milwaukee

(-) Lower than Milwaukee

Market Demographics

- Demographic factors may cause differences in hospital inpatient payment levels by directly or indirectly impacting hospital operating costs, patient mix or revenues

- Baseline Midwest city measurements include adjustments for:
  - Payer mix
  - Intensity of service

Market Demographics
(continued)

- Demographic measurements:

Source: U.S. Bureau of Census	Milwaukee	Cincinnati	Detroit	St. Louis
Median Age (Years)	35.3	35.1	34.0	36.0
% Veteran	11.9%	12.7%	11.6%	13.4%
% High School Graduate or Higher	84.5%	82.9%	77.0%	83.4%
% Unemployed	3.6%	2.9%	5.1%	3.7%
% Labor Force in Hazardous Jobs	24.3%	23.2%	28.4%	22.0%
Per Capita Income	$23,158	$23,398	$20,058	$23,434

- Observation: General demographic factors in Milwaukee are similar to Cincinnati and St. Louis and generally more favorable than Detroit.

Public / Pediatric Hospital Impact

- Existence of such facilities may result in a different mix of patients for other hospitals. May result in different patterns of inpatient costs for other hospitals in market
- Public/pediatric hospital marketshare

Source:	Milwaukee	Cincinnati	Detroit	St. Louis
Public Hospital Inpatient Marketshare (Admissions)	0%	1.3%	0%	0%
Pediatric Hospital Inpatient Marketshare (Admissions)	10.5%	9.4%	2.4%	6.0%

- Observation: The low market shares of public and pediatric hospitals in Milwaukee are consistent with the other cities and have limited ability to influence overall market payment levels

Hospital Payment Terms

- The structure of payments for inpatient hospital services may:
  - Impact payment levels over time
  - Reflect the relative negotiating power of payers or providers

- Generally, fixed payment methods (capitation, per diem, or DRG) insulate payers from service-mix related payment increases better than discounted charge payments

Hospital Payment Terms

- HMO hospital payment methodologies (% of total inpatient payments)

	Milwaukee	Cincinnati	Detroit	St. Louis
Capitation	0%	0%	7.8%	0%
Per Diem	9.8%	8.7%	51.9%	74.8%
DRG	40.4%	89.8%	25.9%	4.6%
Other (% of charges)	49.8%	1.5%	14.4%	20.7%

Source: *Interstudy Regional Market Analysis – July 1, 2003*

Observation: Hospital payment methods in Milwaukee shift risk for mix-driven operating cost increases to payers more than in the other cities.

Outpatient Payments

- Different hospital outpatient activity and payment levels may affect average inpatient payment levels
- 2003 comparative data

	Milwaukee	Cincinnati	Detroit	St. Louis
Outpatient as Percent of Total Business	41%	34%	42%	38%
Average Cost Per Outpatient Equivalent Discharge (Relative to Milwaukee)	100%	77%	59%	79%

- Observation: Average outpatient payment levels are higher in Milwaukee than the other cities. Inpatient payment levels in the other cities are not significantly subsidized by outpatient payments relative to Milwaukee.

Payer Configuration and Ownership

- Highly concentrated payer markets may have increased purchasing and negotiating power resulting in lower payments to hospitals
- Market characteristics:

Market Description	Milwaukee	Cincinnati	Detroit	St. Louis
Concentrated 1 Large Local Payer			X	
Concentrated 2 Large National Payers		X		
Multiple National / Regional Payers	X			X

Observation: The payer market is substantially less concentrated in Milwaukee than in Detroit and Cincinnati and may result in less price negotiating leverage with hospitals.

HMO Penetration

- Greater HMO penetration may result in more aggressive payer-driven hospital cost management
- Estimated commercial enrollment market share

	Milwaukee	Cincinnati	Detroit	St. Louis
Commercial HMO (% of Total Market)	20.5%	19.9%	22.4%	17.8%
Commercial Non-HMO (% of Total Market)	40.2%	42.6%	31.6%	42.0%
Total Commercial (% of Total Market)	60.7%	62.5%	54.0%	59.8%
HMO as % of Commercial	33.8%	31.8%	41.5%	29.8%

Observation: Relative HMO penetration within commercial insurers in Cincinnati and St. Louis is similar to Milwaukee. Overall market HMO penetration is similar among all cities.

Source: *Interstudy Regional Market Analysis – July 1, 2003*

Hospital System Factors

Summary of Market Differences

Hospital Factors

	Cincinnati	Detroit	St. Louis
Hospital Market Share Concentration	+	-	0
Tertiary Service Concentration	+	0	+
Geographic Concentration of Individual Hospital Systems	-	-	-
Cost Shift Considerations	-	-	-
Hospital Operating Costs	-	-	-
Hospital Wage Rates	-	+	-
Hospital Capital Costs	-	-	-
Average Market Hospital Profit Levels	-	-	+
Large Hospital System Profit Levels	0	0	+

KEY

(+) Higher than Milwaukee

(0) Comparable to Milwaukee

(-) Lower than Milwaukee

Hospital System Market Characteristics

- Hospital system market share concentration may exist at several levels:
  - Entire market
  - Market subsets
    - Tertiary services
    - Routine services

Hospital System Market Characteristics

- The impact of market share concentration may vary based on the circumstances:
  - Consolidation of high cost / lower utilization clinical services or overhead functions may reduce hospital operating costs
  - Marketshare consolidation of higher utilization clinical services across the market may increase the negotiating leverage of hospital systems
  - Consolidation of market shares in areas with large concentrations of commercial patients may increase the negotiation leverage of hospitals and create payer mix imbalances among health systems.

Hospital System Market Characteristics

Market Share Data

	Milwaukee	Cincinnati	Detroit	St. Louis
Hospital Systems	5	4	6	4
Largest System Inpatient Marketshare	36%	40%	18%	33%
Two Largest Systems Inpatient Marketshare	57%	63%	33%	51%
Independent Hospital Inpatient Marketshare	2%	5%	20%	20%

Hospital System Market Characteristics Submarket Concentration

- Tertiary Service Concentration

	Milwaukee	Cincinnati	Detroit	St. Louis
Generally Distributed Across Multiple Systems	X		X	
Generally Concentrated in Largest System(s)		X		X

- Geographic Concentration of Non-Tertiary Services

	Milwaukee	Cincinnati	Detroit	St. Louis
Geographic Overlap of Competing Systems and Independents	Lower	Moderate	Higher	Higher

Hospital System Market Characteristics

- Observations:
  - Overall hospital system market concentration in other cities is different in each market and provides no consistent pattern as compared to Milwaukee.
  - Tertiary services in St. Louis and Cincinnati are generally concentrated in fewer health systems than Milwaukee.
  - Milwaukee's individual hospital systems are generally more geographically concentrated in distinct areas with less competitor overlap than in the other cities.

Hospital Cost Shift Considerations

- Impacts of cost shift differences among markets are included in the baseline comparisons
- Within any market, there may be differences in cost shift pressure among hospital systems
- Hospital systems with sufficient negotiating leverage often negotiate higher commercial payment levels to offset government payment shortfalls

Summary of Market Cost Shift Considerations

	Milwaukee	Cincinnati	Detroit	St. Louis
Largest system(s) have below market average payer mix	YES	NO	YES	NO
Largest system(s) own hospital(s) which generate significant financial losses	YES	NO	YES	NO

- Observation: Financial pressures on larger health systems resulting from payer mix differences among hospital systems in Milwaukee and Detroit are significantly greater than in Cincinnati and St. Louis.

Hospital Operating Cost Comparison

- Measure of relative operating expense levels of hospitals
- May influence or be influenced by commercial insurance payment levels depending on payment methods and negotiating leverage
- Total operating costs as reported by hospitals, adjusted for:
  - Outpatient activity using equivalent discharges
  - Labor rate differences using Medicare DRG payment methodology and respective wage indices

Hospital Operating Cost Comparison

	Milwaukee	Cincinnati	Detroit	St. Louis
Hospital Operating Cost per Equivalent Discharge (Unadjusted)	100%	83%	80%	81%
Hospital Operating Cost per Equivalent Discharge (Wage Adjusted)	100%	86%	79%	88%

Hospital Capital Cost Differences

- Comparisons

	Milwaukee	Cincinnati	Detroit	St. Louis
Certificate of Need status	NO	NO	YES	YES
Depreciation and interest per equivalent discharge (relative to Milwaukee)	100%	82%	71%	73%

- Capital cost (depreciation and interest) differences account for 9-14% of the total per unit hospital operating cost differences between Milwaukee and the other cities

Hospital Cost Differences

- Observations:
  - Overall hospital operating costs in Milwaukee are substantially higher than in the other cities

Hospital Profitability Comparison

- Different hospital profit levels may affect inpatient payment levels
- Differences in profit margins exist between Midwest cities

	Milwaukee	Cincinnati	Detroit	St. Louis
Profit Margin (2003)	6.6%	4.1%	0.1%	9.9%

Hospital Profitability Impact on Commercial Inpatient Payment Levels

- Adjusted average commercial payer levels for each market based on Milwaukee hospital average profit margin
- Profit margin adjustment allocated based on market inpatient/outpatient mix
- Calculated adjusted inpatient commercial payment per discharge for each market

	Milwaukee	Cincinnati	Detroit	St. Louis
Baseline Commercial Payment per Discharge	100%	56%	84%	59%
Profit Adjusted Commercial Payment per Discharge	100%	59%	94%	55%

Hospital Profitability Impact on Commercial Inpatient Payment Levels

- Observations:
  - Differences in hospital profitability levels are a significant factor in commercial payer inpatient cost differences between Milwaukee and Detroit, but have limited impact on the payment level differences between Milwaukee and Cincinnati or St. Louis.

Hospital System Profitability Comparison

- Large hospital system's profit levels may influence their use of negotiating leverage with commercial payers to obtain higher commercial payments.

Profit Margin Comparison

	Milwaukee	Cincinnati	Detroit	St. Louis
Largest hospital system	0	0	0	+ +

KEY

(+ +) Significantly greater than respective market averages

(0) Similar to respective market averages

Hospital System Profitability Comparison

- Observation:
  - The largest hospital systems in each city have negotiated commercial payment rates that generate profit margins equal to or greater than market averages.

Uses of This Report

- Milliman encourages the business, provider, and government communities to use this information to collaborate on quality and cost improvement initiatives. We did not create this information for (and we ask that it not be used in) public relations efforts or for general media purposes. We also ask that this information be reviewed and used in its entirety. Market comparisons using only one measure or even a limited number of measures can be misleading. An informed comparison of market health care performance should also incorporate other information, particularly additional quality measures, not included in this report. This information is designed for use by the business community and health care providers, not individual consumers of health care services.

Appendix A
Factors Contributing to Higher Hospital Inpatient Payment Levels in Milwaukee

Methodology and Assumptions

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Appendix A
Factors Contributing to Higher Hospital Inpatient Payment Levels in Milwaukee

Methodology and Assumptions

Table of Contents

Exhibits

I. OVERVIEW

This Appendix describes the data, methods, assumptions and tools Milliman used to compare inpatient hospital payment levels among 9 Midwest urban markets and subsequent analysis (Section II of this Appendix) of the causes of inpatient hospital commercial payment differences between Milwaukee and Cincinnati, Detroit and St. Louis (Section III of this Appendix). Measuring and determining causes of differences in health care payment levels is a complicated and often controversial process. Therefore, the descriptions in this report are crucial to the effective use of this inpatient hospital payment analysis. Milliman's comparison of Midwest hospital inpatient payment levels and analysis of the causes of differences in inpatient payment levels between Milwaukee and the other cities should only be considered in its entirety and only with the attached Exhibit.

Commercial Business Only

The inpatient hospital payment level analysis is based on hospital admissions of commercially insured patients (i.e., non-Medicare, non-Medicaid) except as noted.

Quality Comparisons

Milliman's analysis did not include any comparisons of quality or outcomes information because such data was outside the scope of this analysis. Quality information is a critical component of provider evaluation and should be considered when evaluating hospital performance.

II. MIDWEST CITY PAYMENT LEVEL COMPARISON

The Greater Milwaukee Business Foundation on Health (the Foundation) commissioned Milliman to compare inpatient hospital payment levels among select Midwest urban markets for a commercial health insurance population. "Payment levels" are defined as health insurance plan reimbursement (allowed charges) to hospitals before reductions for participant cost sharing (e.g., deductible coinsurance, copays).

Milliman's goal for this comparison is to provide a case mix, severity and cost shift adjusted comparison of hospital payment levels using:

- Claim data for hospitals in other Midwest markets available to Milliman
- Publicly available data, and
- Unbiased and equitable methods, assumptions and tools from Milliman.

Milliman compared average inpatient payment levels among Midwest markets for a commercial health insurance population using the following measurements:

- **Case Mix/Severity Adjusted per Admission Payments** to estimate the impact of health plan negotiated provider contracts on commercial business, which include negotiated discounts from billed charges.

- **Avoidable Day Efficiency** to estimate the relative impact on payment levels resulting from an estimate of the percentage of avoidable inpatient days within each market.

- **Cost Shift Index** to estimate the impact on each market's average commercial payment levels resulting from having a payer mix (i.e., mix of commercial, Medicaid, Medicare and uninsured business) that is different than the Milwaukee community average.

Midwest Markets

Milliman's analysis includes all general, adult acute care inpatient facilities in nine designated markets. Each market was defined using the geographic boundaries of the related Metropolitan Statistical Areas (MSA) as designated by the United States Office of Management and Budget.

Inpatient Hospital Payment Level Comparison Midwest Markets	
Market	**MSA**
Chicago	Chicago, Illinois
Cincinnati	Cincinnati, Ohio
Cleveland	Cleveland, Ohio
Detroit	Detroit, Michigan
Indianapolis	Indianapolis, Indiana
Kansas City	Kansas City, Missouri, Kansas City, Kansas
Milwaukee	Milwaukee, Wisconsin
Minneapolis	Minneapolis- St. Paul, Minnesota
St Louis	St. Louis, Missouri

Excluded Facilities

Sub-acute care and specialty hospitals (e.g., heart, orthopedic, behavioral health, children's, rehabilitation and long-term acute care) in each market have also been excluded from the analyses.

Data Time Period: 2003

The inpatient hospital payment level analysis is based on data from calendar year 2003, the most recent time period for which all necessary data was readily available. Hospital inpatient service intensity, reimbursement levels (i.e., discounts), efficiency, cost shift and case mix may change in any or all of the selected markets over time. The results of this comparison would likely be different if the analysis were performed on more recent data.

Inpatient Hospital Facility Services and Costs Only

The hospital payment level analysis is based solely on inpatient facility services and cost. It does not include analysis of payment levels for specific outpatient services due to lack of availability of reliable and complete data. Outpatient hospital services are an important part of any hospital analysis because outpatient hospital payments typically represent 40% to 50% of all hospital payments for a typical commercial health plan. Milliman's analysis of the causes of payment level differences between Milwaukee and Cincinnati, Detroit and St. Louis (described in Section III of this Appendix) addresses average outpatient payment level differences among the cities.

The analysis does not include costs from other health care providers such as physicians, home health agencies and pharmacies.

The reader of this report should consider all elements of health care costs before making any conclusions from this analysis of inpatient hospital cost efficiency.

Interpreting Results: Percentage of Milwaukee Community Average

Exhibit 1 compares each market to the average for all hospitals within the Milwaukee MSA (Milwaukee community average). The average payment levels for each community are stated as a percentage of the Milwaukee community average in each graph. The Milwaukee community average is expressed as 100% in each comparison.

- Payment levels below 100% imply lower than average payment levels. A market with a relative payment level of 90% indicates that its average price level is 10% lower than the Milwaukee community average.

- A Cost Shift Index above 100% indicates a greater need to shift costs to the commercial population based on a market's relative mix and reimbursement for government, commercial and self-pay business than the Milwaukee average.

- Avoidable Day Efficiency above 100% implies more potentially avoidable days than the Milwaukee average and lower than average utilization efficiency.

Small differences in magnitude on particular measures may not truly differentiate performance.

Methodology, Assumptions and Data Sources

Case Mix/Severity Adjustments estimate the impact if each market (Exhibit 1) served the same average Milwaukee mix of diagnoses and severity (case mix) of illness for a commercial population. The basis for the severity adjustment is Milliman's Hospital Relative Value System (HRVS).

The HRVS assigns hospital relative value units (HRVUs) for inpatient acute care based on each admission's APR-DRG (a categorization and coding system available commercially from 3M that reflects four levels of severity within a diagnosis-specific admission category). The HRVUs are analogous to the Medicare Resource Based Relative Value Schedule for physicians (RBRVS) as they estimate the relative resource consumption of hospital admissions based on the severity of the case. The HRVS creates a base number of HRVUs for each APR-DRG admission, a corresponding base length of stay associated with each APR-DRG admission and incremental HRVUs for each day of an admission that exceeds the base length of stay. Milliman calculated an average payment per HRVU by dividing each market's total payments for each APR-DRG by the market's total HRVUs for each APR-DRG.

Milliman calculated an overall payment per HRVU for each market by compositing the results of the HRVS by APR-DRG using the respective community average case mix of admissions by APR-DRG.

Avoidable Day Efficiency estimates each market's potentially avoidable days relative to the potentially avoidable days calculated from the Milwaukee community average (standardized for risk and severity). For example, an Avoidable Day Efficiency of 105% suggests that a market's potentially avoidable days are 5% higher than they would have been had it performed at Milwaukee market average efficiency (i.e., the market is less efficient than the average for Milwaukee). Lower levels of avoidable days would result in comparatively shorter lengths of stay and/or fewer admissions which may result in lower hospital costs. Avoidable Day efficiency adjustments for each Midwest market included in Exhibit 1 were calculated using the weighted average of adjustments for each hospital included within the grouping.

Milliman estimated the avoidable day efficiency using Milliman's Hospital Efficiency Index™. The Hospital Efficiency Index is a statistical model that estimates inpatient hospital utilization efficiency by comparing each hospital's potentially avoidable inpatient days relative to identified "most efficient practices" throughout the United States. The Hospital Efficiency Index uses commercial inpatient admission data from the 2003 Wisconsin Bureau of Health Information Data and Medicare data from 2003 MedPar data published by the Centers for Medicare and Medicaid Services (CMS).

Milliman developed this commercially available Index by identifying the hospital or group of hospitals throughout the United States with the lowest average length of stay and lowest potentially avoidable admissions, based on a statistically credible number of admissions, for each APR-DRG (diagnosis groupings by condition and four different levels of severity). Each hospital's actual percentage of avoidable inpatient days is calculated, based

on its own mix of admissions by APR-DRG, as the difference between the hospital's actual average length of stay and admission rate for each APR-DRG, and the average lengths of stay and admission rates for the nationwide best practice hospital(s). The admission data set excluded transfers to and from acute care hospitals, early deaths, outliers with lengths of stay in excess of APR-DRG specific outlier targets and low frequency APR-DRGs for which we could not establish a benchmark. All other hospital admissions are included.
The following should be considered when evaluating results from the hospital efficiency analysis:

- The evaluations do not address the relative quality of inpatient care within a market, but rather its relative efficiency level based on potentially avoidable days and admissions.

- These indices may vary due to statistical fluctuations and consideration should be given to appropriate statistical confidence levels, which are available in the Hospital Efficiency Index database.

- A market that has inappropriate / unnecessary admissions for a particular diagnosis / procedure combination may exhibit lower efficiency indices than would otherwise apply.

- These results measure a market's efficiency for the years that the data is reported using a common benchmark. To the extent that hospitals within a market have subsequently implemented programs to improve its efficiency, its current performance level may have improved. In order for a market to improve its relative position vis-à-vis other markets, the average efficiency of hospitals with that market must improve by more than the average improvement of benchmark hospitals within the other markets.

- Some hospitals may be constrained by infrastructure or other resource limitations from performing at more efficient levels.

More information about the Milliman Hospital Efficiency Index can be found at www.milliman.com/health/tools_and_models.

Cost Shift Index estimates the theoretical impact on each market's commercial payment level of having a payer mix (i.e., Medicaid, Medicare, commercial and uninsured business) and relative reimbursement rates that are different than the Milwaukee community average. For example, a Cost Shift Index of 105% implies that a market's commercial payment levels are 5% higher than they would have needed to be if the market

had a community average payer mix equal to the Milwaukee market's average payer mix and payment rates. The Cost Shift Index is intended to illustrate how funding shortfalls from governmental and uninsured patients can affect a market's payment levels.

Medicare and Medicaid program reimbursements and payments from uninsured patients are typically considerably lower than commercial payment levels and, for hospitals within many markets, less than costs. Markets with a greater than average share of government program business or with high levels of uninsured care will have a greater relative need than other markets to make up for these revenue shortfalls through higher commercial payment levels, all other factors being equal (e.g., relative efficiency, margin expectations, etc.).

Milliman calculated a Cost Shift Index for each market by adjusting each market's percentage distribution of business by payer class (using reported billed charges to determine the percentage allocations) to the Milwaukee community average mix of business, and then calculating the commercial payment level required to maintain the Market's overall net patient revenue if the Market had the Milwaukee community average mix of business rather than its actual mix of business.

The source of data for the Milwaukee market Cost Shift Index calculations is the Wisconsin Department of Human Services Fiscal Year 2003 Hospital Fiscal Year Survey. The source of data for Medicare and Non-governmental payments (commercial insurance and self pay) and percent distribution of business by payer class in the other Midwest markets is 2003 Medicare cost report information filed with the Centers for Medicare and Medicaid Services (CMS) as summarized and reported by *Ingenix*. Milliman obtained Medicaid reimbursement rates for each market from the respective state hospital associations. Milliman included the following classes of patient revenue in its calculations (as defined and reported in the Survey): Medicare, Medicaid and non-governmental.

Milliman applied the Cost Shift Index to the Case Mix, Severity, Efficiency Adjusted commercial payment information (discussed in the prior sections of this appendix) to illustrate how hospital costs for each market might compare if payer mix were more similar among markets.

Other Factors

Milliman did not evaluate the impact of medical education programs on hospital commercial payment levels between the markets due to insufficient data to evaluate the complete impact of such programs on hospital operating costs. Some providers believe providing a medical education program to train physicians and other health care

professionals creates an additional cost burden that is inadequately reimbursed by non-commercial payors. Each Midwest market included in the study has medical education programs of varying sizes within its hospitals.

Milliman did not evaluate the impact of the overall level of hospital or system profitability on hospital commercial payment levels for the markets included in the 9 city comparison. Milliman assumed that the current level of hospital profitability for each market was adequate to meet the needs of the community. Milliman's analysis of the causes of payment level differences between Milwaukee and Cincinnati, Detroit and St. Louis includes comparisons of the relative impact of differences in market average hospitals profit levels on commercial inpatient hospital payments.

III. CAUSES OF HOSPITAL INPATIENT PAYMENT LEVEL DIFFERENCES BETWEEN MILWAUKEE AND CINCINNATI, DETROIT AND ST. LOUIS

Based on the findings of Milliman's comparison of hospital inpatient payment levels among the 9 Midwest cities, described in Section II of this Appendix, the Foundation commissioned Milliman to identify the significant causes of the identified differences in hospital inpatient payment levels between Milwaukee and Cincinnati, Detroit and St. Louis. Identifying and measuring factors which cause events in complex environments, such as local health care markets, is a complicated and difficult process involving analysis, interpretation and judgment of quantitative and subjective information, considered individually and in the aggregate. Often, similar information from different sources must be used to develop an understanding of factors among the markets. At times, differences in information availability or specificity among the study markets allow for general conclusions to be drawn but prevent precise quantification or measurement of specific impacts within each market. Milliman's analysis and findings should be used only after careful consideration of all of the information in the report and this appendix.

Milliman's objective for this phase of the study was to evaluate potential causes of previously identified differences in hospital inpatient payment levels between Milwaukee and the three comparison markets, Cincinnati, Detroit and St Louis. The comparison markets were selected on the basis of their significantly lower average hospital inpatient payment levels relative to Milwaukee and perceived availability of information to support evaluation of potential causes of the payment level differences. Milliman's evaluation of potential causes of the payment level differences was intended to identify causes which contributed to higher payments to Milwaukee area hospitals and was not intended to identify causes of payment level differences among the comparison markets (i.e. Detroit vs. St Louis or Cincinnati).

Milliman generally used a tiered approach to evaluate potential causes of the payment level differences between Milwaukee and the comparison markets. When evaluating potential contributing factors, Milliman used general information related to the studied factor to assess the probability of producing impacts which were consistent with the direction and magnitude of estimated payment level differences between Milwaukee and the other markets. If the initial assessment suggested that the studied factor had potential to contribute to higher hospital inpatient payment levels in Milwaukee than the comparison markets, Milliman performed additional analysis to further evaluate the impact on market payment levels. If the initial assessment suggested that the factor was not significantly different in Milwaukee than in the comparative markets or the impact would have likely

increased the inpatient cost differences between Milwaukee and the other markets, no further analysis was performed.

Comparison Markets and Study Period

Milliman's study was conducted using information related to all general, adult and pediatric acute care hospitals located in the respective MSA's for Cincinnati, Detroit, Milwaukee and St. Louis. Sub-acute care and specialty hospitals (e.g., heart, orthopedic, behavioral health, rehabilitation and long-term acute care) in each market have been excluded from the analyses.

The study evaluates causes of differences in hospital inpatient price levels between Milwaukee and the comparison markets during 2003. To the extent possible, Milliman used publicly available data from calendar year 2003. In certain cases, most notably related to hospital financial information derived from Medicare cost reports, Milliman used information from fiscal years or other similar measurement periods ending in 2003 as calendar year information was not available.

Market factors including hospital inpatient operating costs, efficiency, reimbursement levels (i.e., discounts) and payment methods, cost shift levels and distribution between hospital systems, hospital system composition and payer configuration and market strength may change in any or all of the selected markets over time. The results of this comparison may be different if the analysis were performed on more recent data.

Methodology, Assumptions and Data Sources

As a means of identifying potential causes of differences in inpatient hospital cost levels between Milwaukee and the comparison markets, Milliman reviewed certain publicly available printed articles and studies which included information related to health care or hospital payment levels, payer or hospital market factors, general economic conditions or other related matters in Milwaukee and/or one or more of the comparative cities during the past 10 years. In addition, Milliman conducted general discussions with persons knowledgeable about one or more of the study markets to obtain background information or clarify other information used in the analysis.

Milliman's Midwest City Payment Level Comparison, described above, estimated the impact of hospital discounts, utilization efficiency and cost shift differences on hospital inpatient price levels among selected Midwest markets. The composite results of those estimates were used as the baseline differences for evaluation of certain potential causes of higher inpatient hospital payment levels in Milwaukee as compared to Cincinnati, Detroit

and St Louis. Whenever possible, the baseline relative payment levels were adjusted to estimate the impact of study factors and to provide comparisons of relative payment levels between Milwaukee and the other markets.

Milliman evaluated the following factors as potential causes of the higher inpatient hospital payment levels in Milwaukee as compared to the comparison markets:

General Demographic Differences were evaluated using information for each respective MSA obtained from the United States Bureau of Census. The information was reviewed to identify factors, which, based on Milliman's judgment and experience, were potential causes of higher hospital operating costs, as measured on a per-admission basis. Factors which were likely to primarily impact payer mix or case mix were excluded from evaluation to avoid duplication of previous adjustments included in the baseline data.

Public and Pediatric Hospital Impacts were evaluated using inpatient admission market share, financial and payer mix information for each facility type in the respective markets obtained from Medicare cost report information derived from Medicare cost reports and obtained from *Ingenix* or obtained from the *American Hospital Association Guide*.

Payer and HMO Market Concentration and Configuration was evaluated using information obtained from *Interstudy's Regional Market Analysis* supplemented with market share or enrollment information obtained from the respective *Business Journal* for each market. This information was supplemented by discussions with Milliman consultants or other persons knowledgeable of payer concentration and configuration in each market.

Hospital Payment Terms were reviewed using information obtained from *Interstudy's Regional Market Analysis*.

Relative Impacts of Outpatient Hospital Payment Levels were estimated using a methodology based on estimates developed from hospital financial information derived from Medicare cost reports and obtained from *Ingenix*, publicly available Medicare reimbursement and utilization data and Medicaid reimbursement information obtained from Hospital Association websites or publications for the respective markets. Sufficient comparative commercial outpatient claims information was not available for the study cities to allow claim-based comparisons. Milliman's methodology did not include adjustments for differences in the average mix of hospital outpatient services that may have existed between the study markets. Milliman's estimates were used to determine whether higher outpatient payments compensated for lower inpatient payments in the comparison cities relative to Milwaukee and should not be used for other purposes.

Hospital Market Concentration and Configuration was studied using hospital financial, inpatient volume and other statistical information derived from Medicare cost reports and obtained from *Ingenix*. Health system affiliation and locations of individual hospitals were obtained through hospital or health system websites. Hospitals affiliated with health systems having less than 10% aggregate marketshare were classified as "independent". Tertiary service concentration within each market was evaluated using the relative inpatient admission market shares of hospitals with Medicare case mix indices of at least 1.6.

Cost Shift Pressure Differences among hospital systems within each market were assessed using hospital financial, inpatient volume and payer mix information derived from Medicare cost reports and obtained from *Ingenix*.

Hospital Operating and Capital Cost comparisons were based on hospital financial information derived from Medicare cost reports and obtained from *Ingenix*. Information for each qualifying hospital was summarized to obtain the totals for each market. Certificate of Need applicability for each respective market was determined by review of publicly available information related to such matters in each state.

Hospital Wage Rate Differences among markets have been identified as a factor that may create hospital operating cost differences that cause commercial price level differences. The impact of wage rate differences within each market was estimated by applying CMS's Medicare DRG payment adjustment formula to average market per-unit hospital operating costs using 2003 Medicare hospital wage indices for each respective market. For the purpose of this estimate, relative average market hospital operating cost levels per equivalent discharge were calculated using hospital charge and operating expense data for each qualifying hospital within the study market derived from Medicare cost reports and obtained from *Ingenix*.

Market Hospital Profit Level Differences were evaluated for their impact on relative inpatient hospital payment levels using hospital financial information derived from Medicare cost reports and obtained from *Ingenix*. Relative inpatient hospital payment levels for the comparison cities were adjusted for the inpatient percentage of the difference in average hospital profit margin percentage for each city compared to Milwaukee.

IV. USE OF INFORMATION

Milliman encourages the business, provider, and government communities to use this information to collaborate on quality and cost improvement initiatives. We did not create this information for, and we ask that it not be used in, health system or hospital-specific public relations efforts or for general media purposes. We also ask that this information be reviewed and used in its entirety. Market comparisons using only one measure or even a limited number of measures can be misleading. An informed comparison of hospital-specific performance between and within the Midwest markets included in this report should also incorporate other information, particularly additional quality measures, not included in this report. This information is designed for use by the business community, not individual consumers of health care services.

Data Reliance

Milliman relied, without audit on public data sources and claim data collected from various sources. To the extent this information is not accurate; the results of Milliman's analyses may not be accurate.

For Further Information

Please contact Keith Kieffer, C.P.A, R.Ph. or Clark Slipher, F.S.A., in the Milwaukee office of Milliman (Phone: (262) 784-2250, e-mail keith.kieffer@milliman.com or clark.slipher@milliman.com) with questions and comments about the hospital payment analyses in this report.

EXHIBIT 1

Milwaukee vs. Other Midwestern Communities

Hospital Inpatient Payment Level Comparison

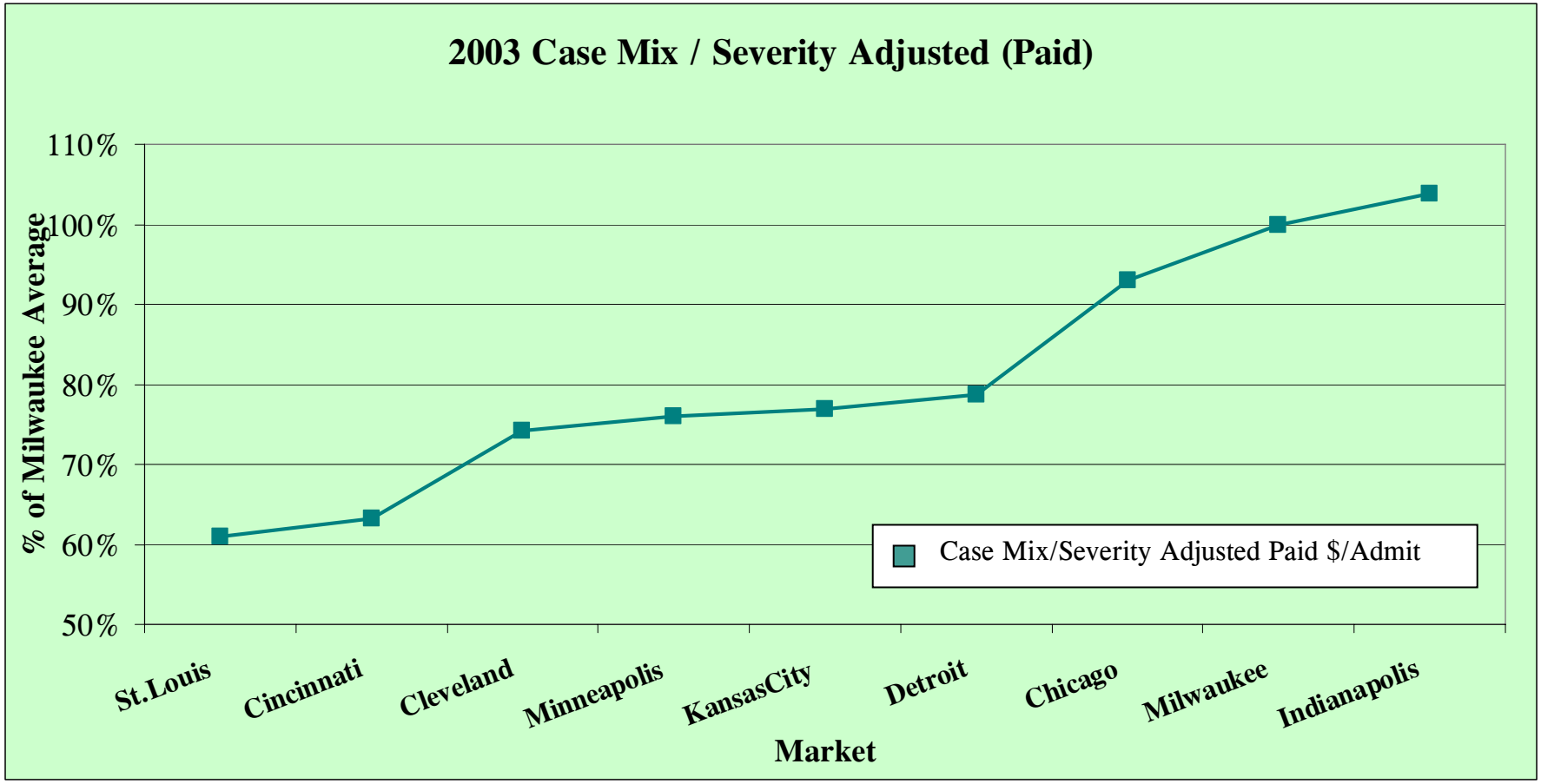

EXHIBIT 2

Milwaukee vs. Other Midwestern Communities

Hospital Inpatient Payment Level Comparison

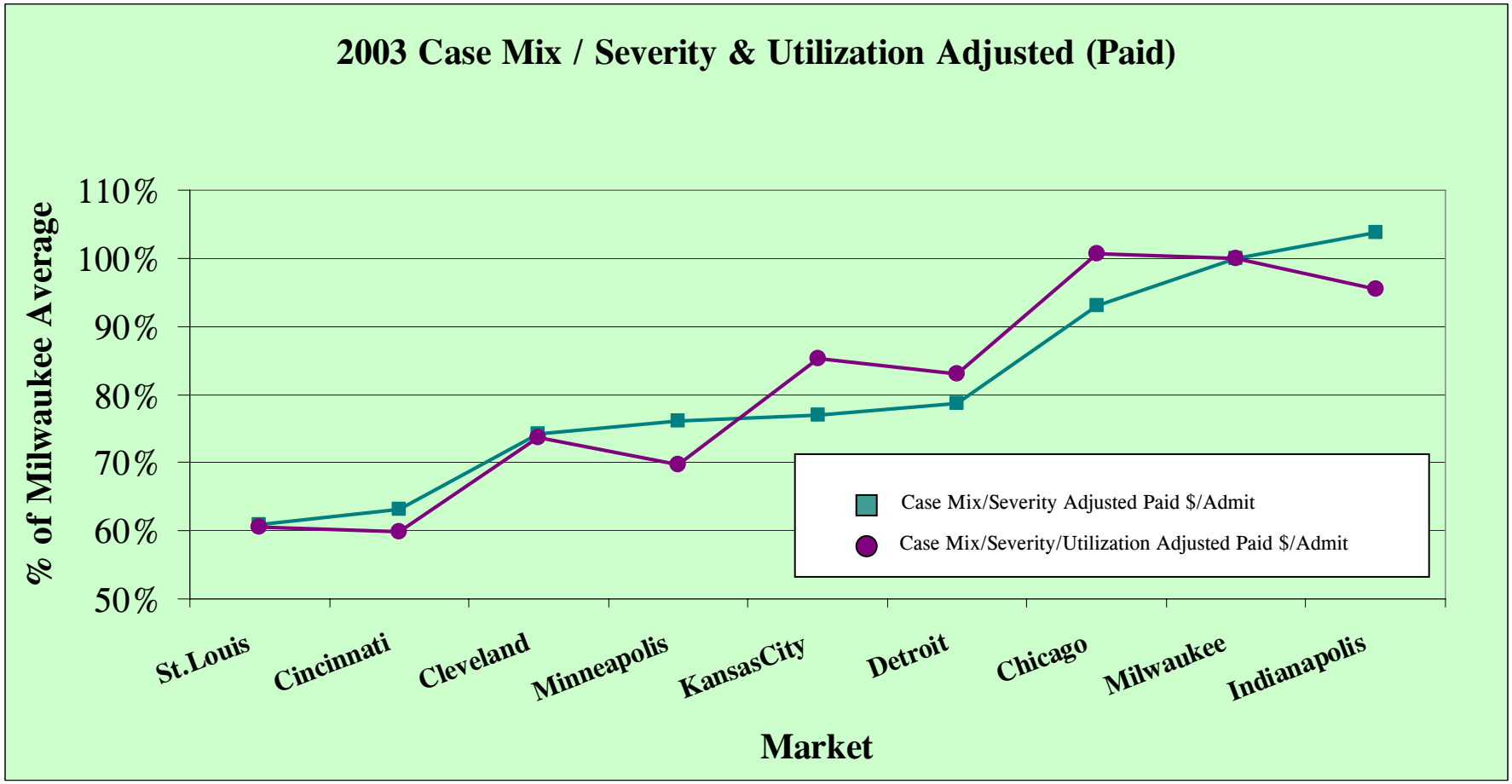

EXHIBIT 3

Milwaukee vs. Other Midwestern Communities

Hospital Inpatient Payment Level Comparison