

Report to the Greater Milwaukee Business Foundation on Health

Key Factors Influencing 2003 – 2006 Commercial Payer Hospital Payment Levels

October 31, 2007



A MILLIMAN GLOBAL FIRM

Milliman

Consultants and Actuaries

Keith Kieffer CPA RPh.
Management Consultant

Table of Contents

| | <u>Page</u> |
|--|-------------|
| Study Background and Objectives | 3 |
| Data Sources, Methods and Results | 6 |
| Caveats and Use of this Report | 40 |

Appendix A



Background

- A previous study based on 2003 data identified the following factors as contributing to Milwaukee's higher health care costs:
 - Health system geographic market concentration
 - Hospital operating cost levels
 - Distribution of cost shift burdens among health systems
 - Fixed hospital payment methods
 - Commercial payer market concentration
- Interplay of factors is important



Study Objectives

- Where possible, establish Milwaukee area baseline measures for each factor identified in the previous study
- Measure 2003 through 2006 change in aggregate market and component measures for each factor



Report Components

- Measurements completed for:
 - Hospital Operating Cost Levels
 - Distribution of Cost Shift Burdens
 - Health System Market Concentration

- Unable to obtain data from local payers or providers to measure:
 - Commercial Payer Market Concentration
 - Percentage of Fixed Payments to Hospitals



Data Sources, Methods, and Results



Data Sources

- WHA Information Center:
 - FY 2003 - 2006
 - Wisconsin Hospital Fiscal Survey
 - Wisconsin Hospital Inpatient Discharge Data

- United States Bureau of Labor Statistics
 - Hospital Producer Price Index (Hospital PPI)

- Centers for Medicare and Medical Services
 - Hospital Market Basket (CMS Market Basket)



Included Hospitals and Health Systems

- Limited to hospitals operating in Milwaukee, Ozaukee, Washington, and Waukesha Counties
- Acute care hospitals only
 - Includes specialty hospitals
 - Orthopedic Hospital of Wisconsin (CSM)
 - Wisconsin Heart Hospital (Wheaton)
 - Excludes Psychiatric, Rehabilitation, and LTAC hospitals
- Multi-hospital systems only
 - Excludes Children's Health System and SynergyHealth except as noted



Included Hospitals and Health Systems

- Aurora Health Care (Aurora)
- Columbia St. Mary's (CSM)
- Froedtert & Community Health (F&CH)
- ProHealth Care (ProHealth)
- Wheaton Franciscan Healthcare (Wheaton)



Hospital Operating Cost Comparisons



Hospital Operating Cost Comparisons

Our previous study estimated that 2003 Milwaukee per unit hospital operating costs were 14% to 26% higher than hospital operating costs in some other Midwest cities with lower commercial hospital payment levels.



Hospital Operating Cost Comparisons - *Methods*

- Comparisons of total hospital operating costs as reported in the Wisconsin State Hospital Fiscal Survey
- Total hospital operating costs were converted to per-unit costs using “Adjusted Equivalent Discharges” (AED) to adjust for differences in:
 - Relative blend of inpatient and outpatient business
 - Inpatient case mix and severity
 - Outpatient service mix



Hospital Operating Cost

Comparisons – *Methods* (continued)

- Comparisons of Milwaukee market and individual health system average costs are provided

- Annual change in Milwaukee area market average hospital operating costs compared to national hospital cost inflation indices
 - CMS Market Basket
 - Hospital PPI



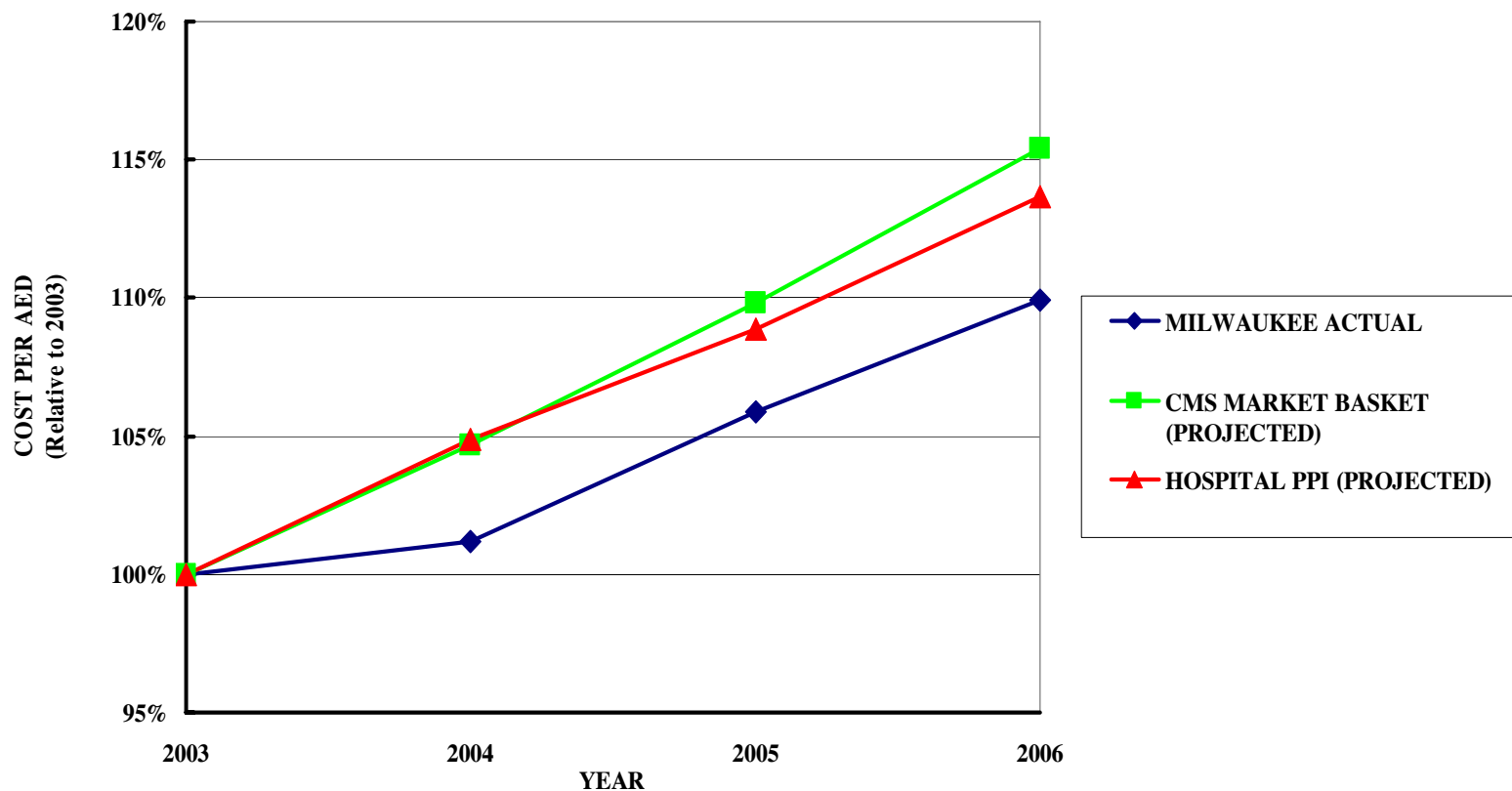
Milwaukee Area Hospital Operating Cost Observations

- Milwaukee area hospital operating costs per AED increased approximately 10% from 2003 through 2006
 - The increase is approximately 65% to 70% of the increase in national hospital cost indices for the same period

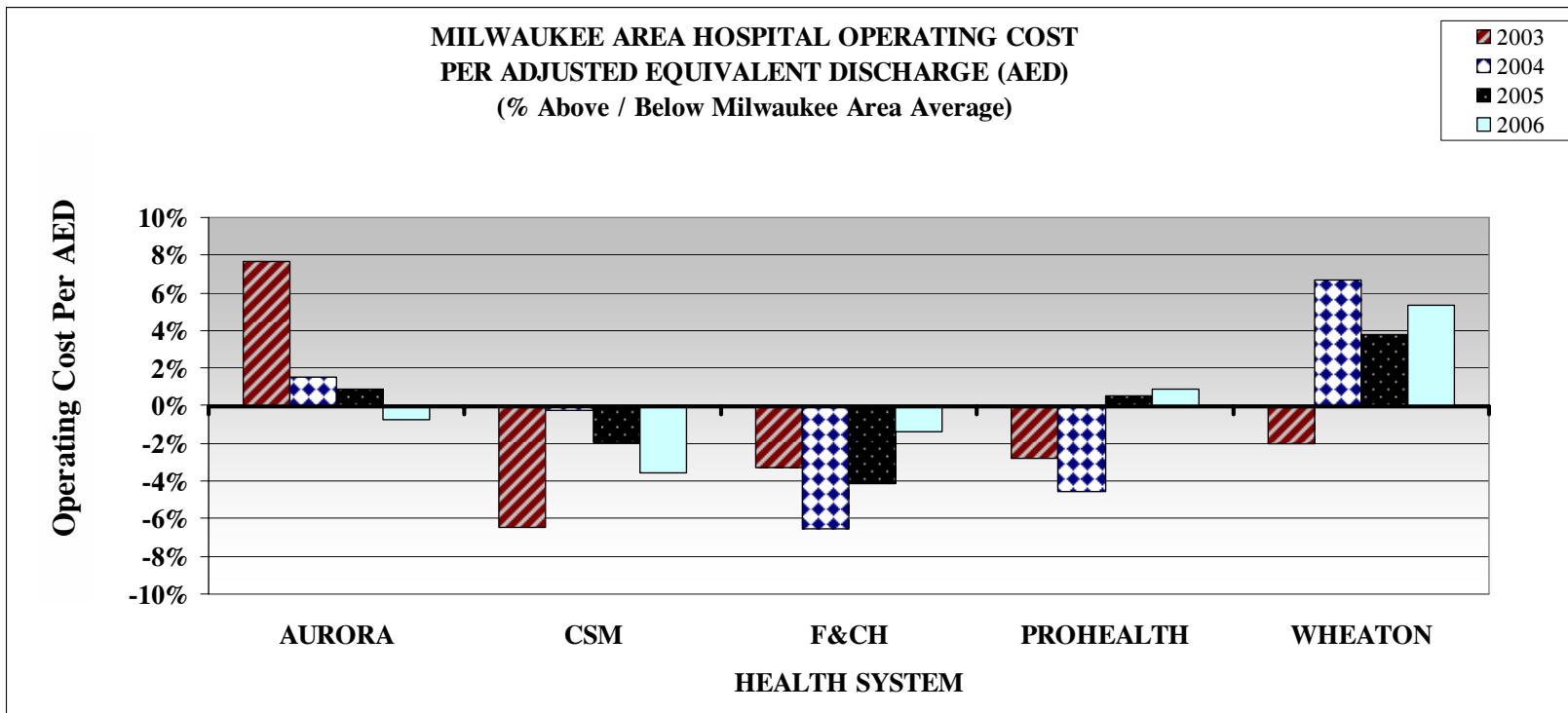


Milwaukee Area Market Average Hospital Operating Costs

MILWAUKEE AREA AVERAGE HOSPITAL OPERATING COST
PER ADJUSTED EQUIVALENT DISCHARGE (AED)
(Relative to 2003 Market Average)



Milwaukee Area Health System Average Hospital Operating Costs



Distribution of Hospital Cost Shift Burdens



Cost Shift Burden Distribution

Our previous study identified the proportionately greater hospital cost shift burdens borne by the Milwaukee area's larger health systems as a factor that contributed to higher commercial hospital payment levels in Milwaukee.



Distribution of Cost Shift Burdens

Methods

- Cost shift burdens were estimated as the difference between Medicare, Medicaid and GAMP payments and related net operating cost (including pro rata share of profits)
- Aggregate cost shift burdens are affected over time by changes in:
 - Government payment levels
 - Government payer patient volumes
 - Hospital operating cost and profit levels



Milwaukee Area Hospital Aggregate Cost Shift Burdens

- Total Milwaukee area hospital cost shift burden for governmental payers increased from 2003 to 2006 but generally remained a consistent percentage of commercial revenue

| Total Milwaukee Area Hospital Cost Shift Burden (\$ Millions) | | | | |
|--|--------------|--------------|--------------|--------------|
| | 2003 | 2004 | 2005 | 2006 |
| Medicare | \$398 | \$443 | \$472 | \$476 |
| Medicaid | 152 | 198 | 225 | 195 |
| GAMP | 12 | 13 | 13 | 11 |
| Total | \$562 | \$654 | \$710 | \$682 |
| % of Commercial Payments (Total) | 28.2% | 30.7% | 29.6% | 28.6% |



Distribution of Cost Shift Burdens

Methods

- Health system relative cost shift burdens are compared to the market averages using Milliman's Cost Shift Index.
 - Estimate of impact of payer mix on commercial payment levels
 - Assumes no change in health system operating costs or profit levels
 - A health system with a Cost Shift Index 5% higher than market average requires 5% higher commercial payment levels than the market average to offset its higher cost shift burden

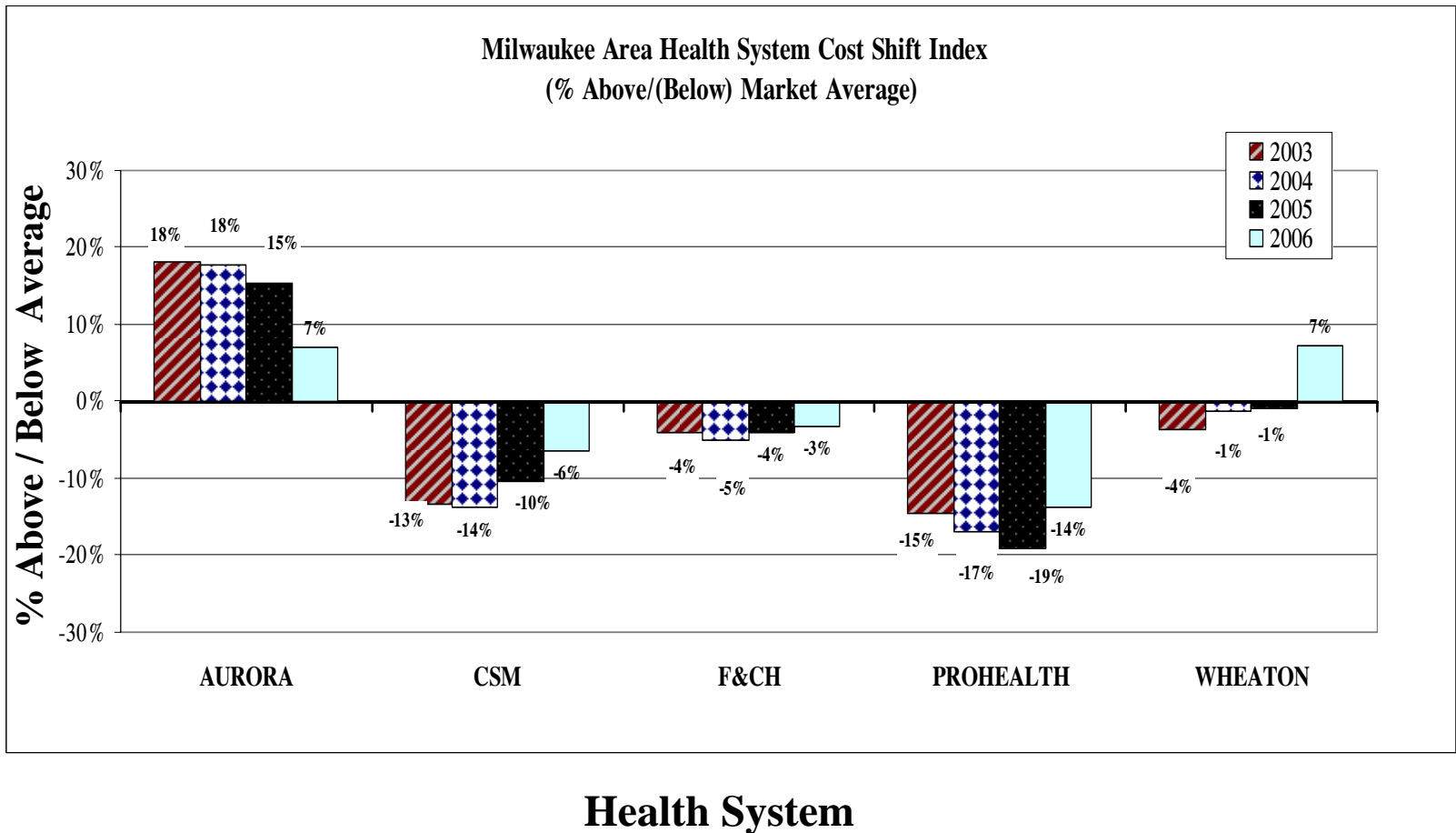


Cost Shift Burden Observations

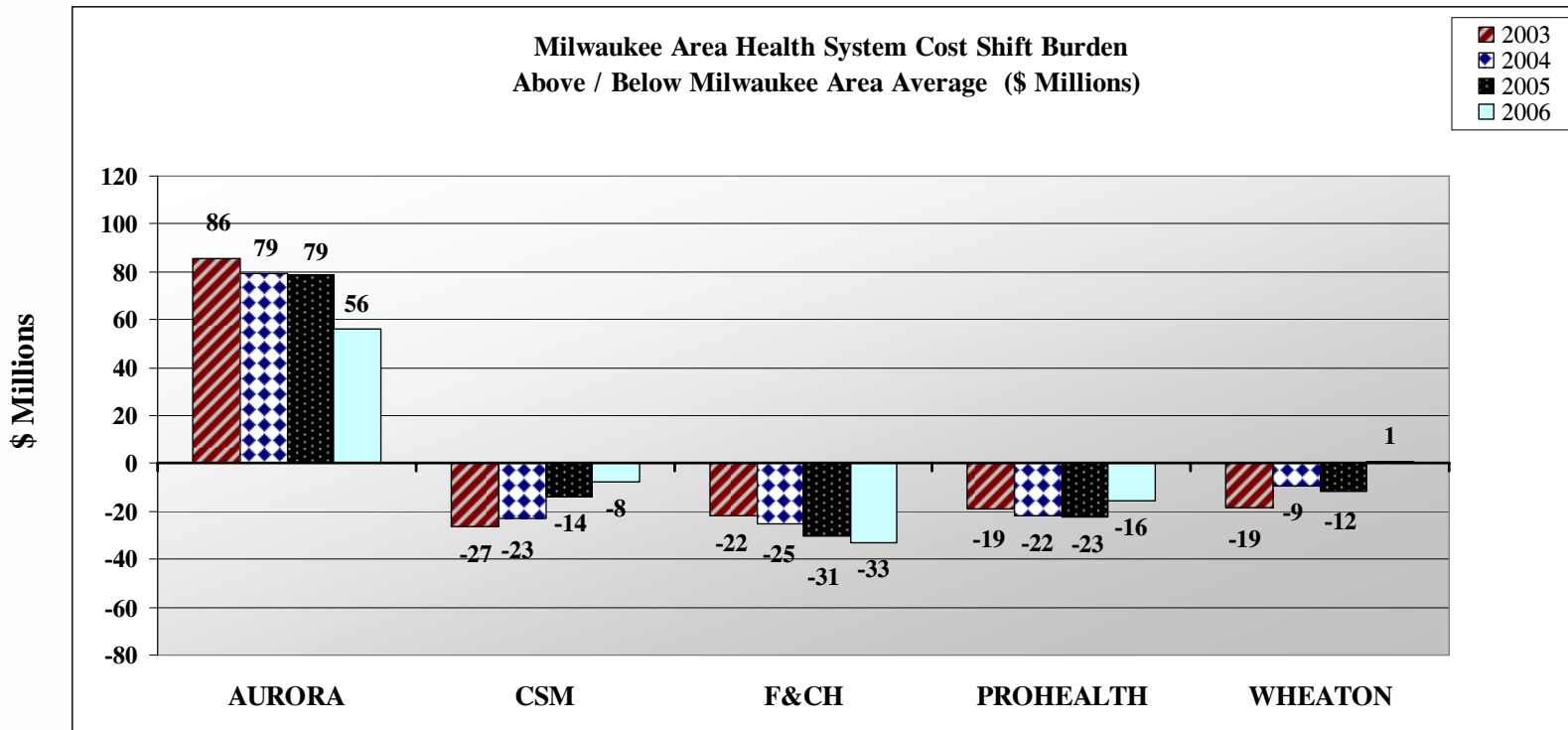
- Differences in relative cost shift burdens among Milwaukee area health systems generally decreased from 2003 to 2006
- With the exception of Wheaton, each health system's relative cost shift burden moved closer to the market average from 2003 to 2006



Relative Milwaukee Area Hospital Cost Shift Burden



Milwaukee Area Health System Total Hospital Cost Shift Burden



Health System Geographic Market Concentration



Milwaukee Area Health System Geographic Market Concentration

Our previous study identified the high geographic concentration of hospitals within individual Milwaukee area health systems as a factor contributing to Milwaukee's higher commercial hospital payment levels



Geographic Concentration

Data

- Measures use hospital inpatient discharge data obtained from WHA
 - Included only commercial discharges of residents from four county area to Included Hospitals or St. Joseph's Hospital (West Bend)
 - Excluded Psychiatric, Rehabilitation, and transfer discharges
 - Excluded Medicare, Medicaid, GAMP, Charity, Self Pay and other non-commercial discharges
 - Excluded four county area residents discharged from hospitals in other markets (Racine, Madison, Green Bay, Fond du Lac, etc.)



Geographic Concentration

Measurement Methods

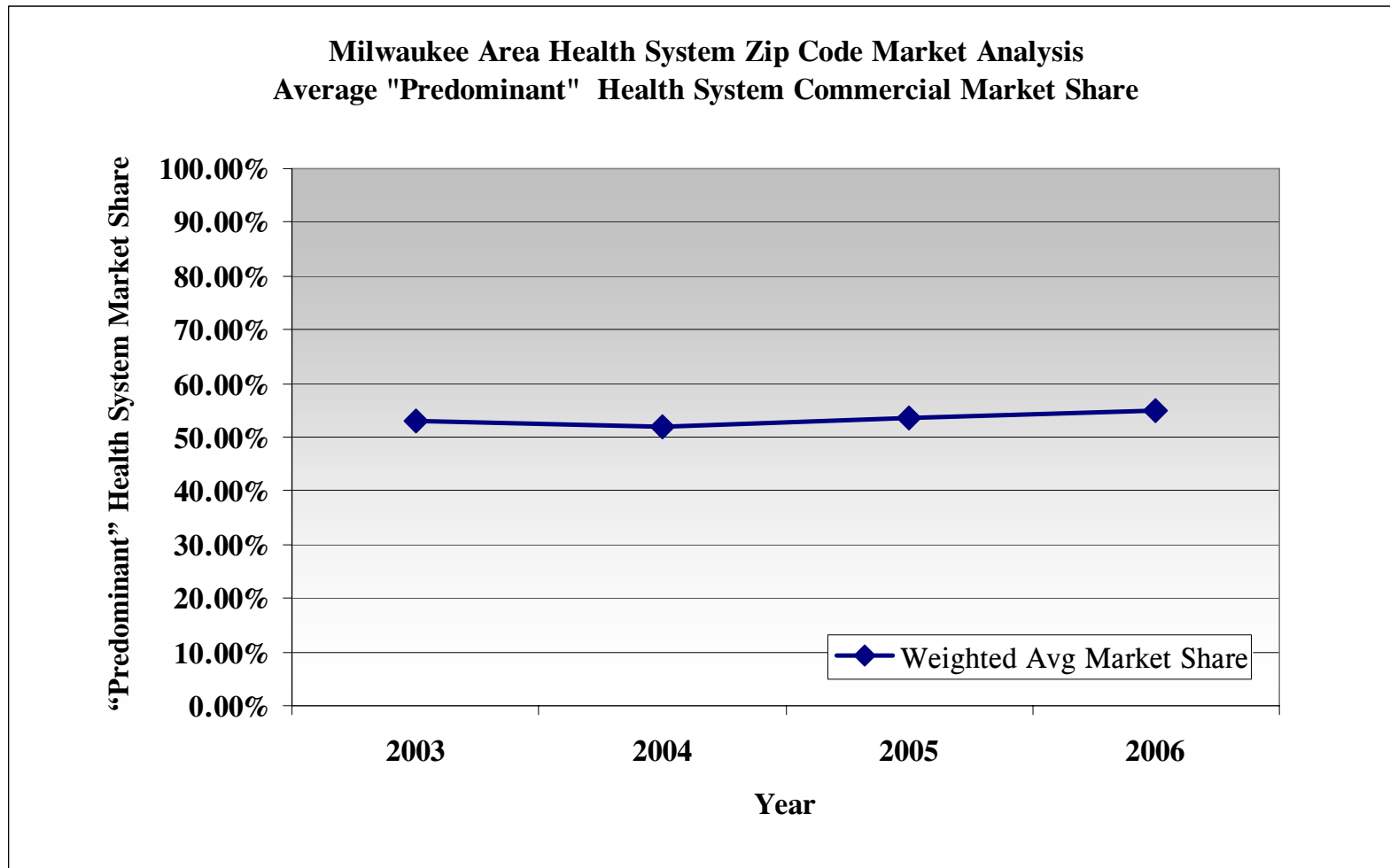
■ Aggregate Market Comparisons

- Used commercial discharges to calculate each health system's market share for each Milwaukee Area zip code (78 zip codes)
- Identified the commercial discharge market share of the “predominant” individual health system for each zip code
- Calculated weighted market average of “predominant” health system commercial market shares using individual zip code market shares and commercial discharges
- Compared results for each year



Geographic Concentration

Average "Predominant" Health System Commercial Market Share



Geographic Concentration

Commercial Market Share Concentration Observations (2003 – 2006)

- In each year, the average “predominant” health system commercial market share (52% - 55%) is significantly greater than the highest individual health system commercial share of the total Milwaukee market (25% - 28%):
 - Relative ratio of these market shares indicate significant degree of market concentration within individual zip codes
 - Relative measures suggest limited overlap of market areas among competing health systems



Geographic Concentration

Commercial Market Share Concentration

Trend Observations (2003 – 2006)

- Increasing trend of average “predominant” health system commercial market share percentages suggests change in contributing factors:
 - Relative distribution of commercial discharges is shifting towards zip codes with higher “predominant” health system market shares
 - Relative market shares of “predominant” health system market shares are increasing in many zip codes, particularly some with higher commercial volumes



Geographic Concentration

Measurement Methods (continued)

- Comparisons of Market Components
 - Divided zip codes into four categories based on the commercial discharge market share of the “predominant” health system in each zip code
 - Analyzed annual changes in relative percentages of commercial discharges among the four categories



Geographic Concentration

Commercial Market Share *Category Descriptions*

■ Low Competition

- “Predominant” health system market share is > 65%

■ Limited Competition

- “Predominant” health system market share is 50% to 65%

■ Moderate Competition

- “Predominant” health system market share is 35% to 50%

■ High Competition

- “Predominant” health system market share is < 35%



Geographic Concentration

Commercial Market Share Concentration Observations (2003 – 2006)

Preference for Closest Hospitals:

- Health system commercial market shares appeared to be related to hospital proximity in most zip codes. Health systems most closely located to zip codes usually had the highest commercial market shares within those zip codes
- “Predominant” health system commercial market shares tended to be higher when competitors were located farther away than when competitors were in close proximity



Geographic Concentration

Milwaukee Area Category Descriptions

■ Low Competition

- Mostly suburban communities in Ozaukee or Waukesha Counties near single health system hospitals located relatively far from competitor hospitals (Cedarburg, Waukesha, Mukwonago)

■ Limited Competition

- Mixture of Milwaukee and suburban zip codes located in similar proximity to two hospitals from competitor health systems (Pewaukee, Oak Creek, Franklin)

■ Moderate Competition

- Mixture of Milwaukee and suburban zip codes (with or without hospitals) in similar proximity to hospitals from more than two health systems (Muskego, Brookfield)

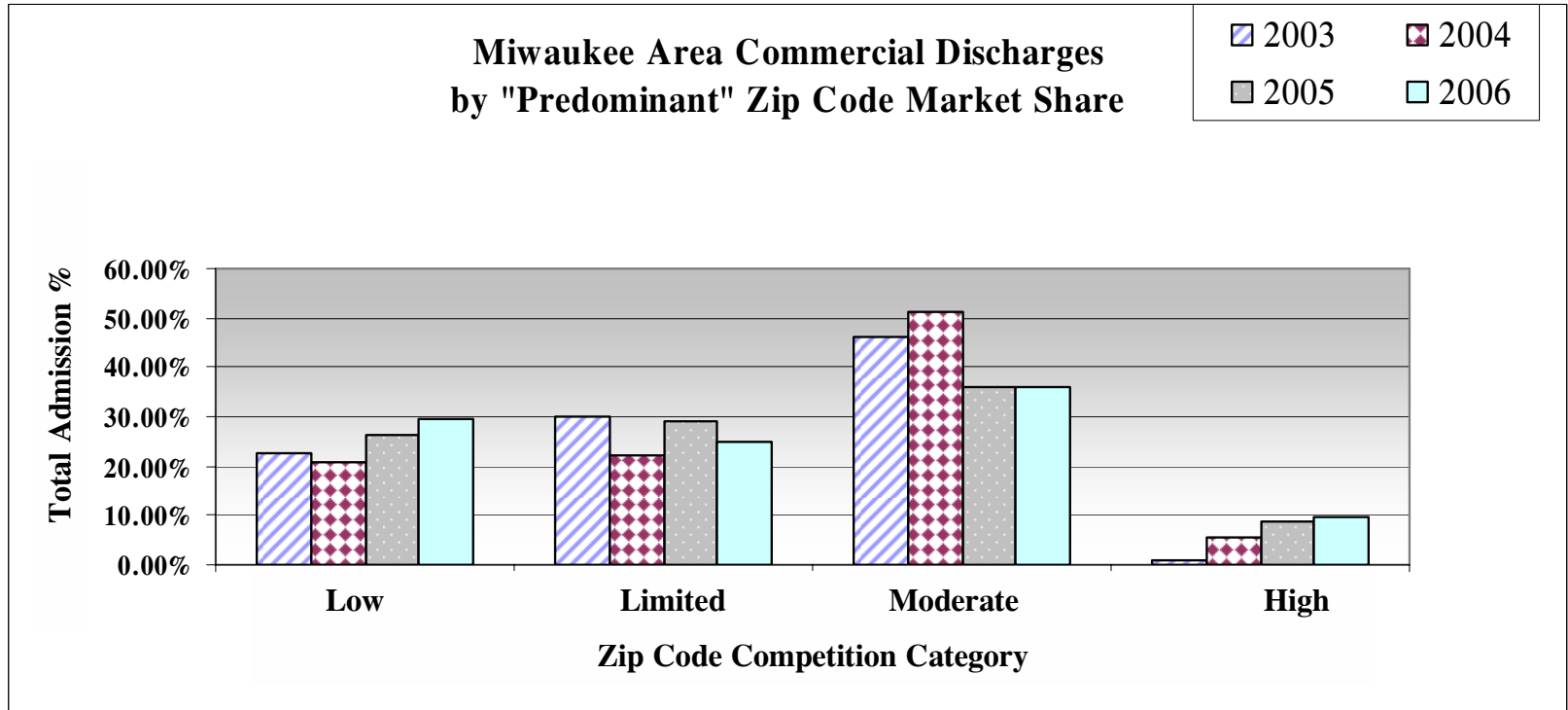
■ High Competition

- Limited number of Central or Northwest Milwaukee County zip codes



Geographic Concentration

Commercial Discharges by Market Share Category



Commercial Discharge Distribution Observations (2003 – 2006)

- Low and Limited Competition zip codes:
 - 55% of total discharges in most years
 - Low Competition
 - Market share increased from 22% in 2003 to 30% in 2006
 - Had “predominant” health system market shares that are usually stable or increasing
 - Had commercial discharge volumes that are also usually stable or increasing



Commercial Discharge Distribution Observations (2003 – 2006)

- Moderate and High Competition zip codes experienced a significant decline in commercial discharge volumes from 2003 through 2006:
 - Commercial discharge volumes declined as much as 25% in many City of Milwaukee and adjacent suburban zip codes
 - General shift from commercial to government or self-pay in affected zip codes
 - Decline is not proportionate to health system market share in most affected zip codes
 - Resulting payer mix changes increased cost shift burdens of affected health systems



Commercial Discharge Distribution Observations (2003 – 2006)

- Many Moderate and High Competition zip codes also experienced significant changes in health system market shares:
 - Disproportionate impact of commercial discharge decline causing “predominant” health system market share changes
 - “Predominant” market share percentages increasing in many of largest Moderate Competition zip codes where “predominant” system affected least
 - “Predominant” health system changing in some zip codes where “predominant” system affected most
 - Increase in High Competition market share percentage generally caused by “predominant” health system market share loss



Caveats

- Hospital operating cost comparisons are based on hospital financial reports filed with WHA. To the extent each health system uses different methods to account for the operating costs of its hospitals, our comparisons may not be valid.
- Cost shift burden results pertain to aggregate hospital commercial and governmental payment levels only and do not reflect cost shift burdens from non-hospital services.



Caveats *(continued)*

- Our comparisons of health system geographic market concentration are based on commercial inpatient discharge data only. Health system market shares of other payer inpatient and / or outpatient services may be different.
- Results were developed using data that we did not audit, but we did review the data for general reasonableness.



Uses of This Report

- This report is intended for use in collaborative quality and cost improvement initiatives. We ask that it not be used for public relations or general media purposes.
- Please review the full report (including Appendix A) and use the information in its entirety. Market comparisons using only one measure or even a limited number of comparisons can be misleading.



Thank You!

James Wrocklage
Greater Milwaukee Business Foundation on Health
+1 262 893.8997
gmbfhinc@aol.com

Keith Kieffer
Milliman, Inc.
15800 Bluemound Road, Suite 400
Brookfield, WI 53005
+1 262 784.2250
keith.kieffer@milliman.com

