

Report to the Greater Milwaukee Business Foundation on Health

Key Factors Influencing 2003 – 2007
Southeastern Wisconsin Commercial
Payer Hospital Payment Levels

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Background

- A previous study based on 2003 data for Milwaukee, Ozaukee, Washington and Waukesha counties identified interplay of the following factors as contributing to the Milwaukee area's higher health care costs:
 - Health system commercial market concentration
 - Hospital operating cost levels
 - Distribution of cost shift burdens among health systems
 - Fixed hospital payment methods
 - Commercial payer market concentration
- Comparisons of changes in measurable factors from 2003 through 2006 were presented in late 2007

Study Objectives

- Expand previous comparisons from Milwaukee Area to Southeastern Wisconsin
 - Kenosha, Racine and Walworth counties added
 - 2003 through 2006 results updated to include expanded area
- Measure change in market average and individual health system hospital commercial payment levels from 2003 through 2007
- Measure 2003 through 2007 change in market average and individual health system measures for each factor identified in the 2003 study

Report Components

- Measurements completed for:
 - Hospital commercial payment levels
 - Hospital operating cost levels
 - Distribution of cost shift burdens
 - Health system commercial market concentration

- Unable to obtain sufficient data to measure:
 - Commercial payer market concentration
 - Percentage of fixed payments to hospitals

Changes from Previous Studies

- Additional health systems and hospitals included
 - United Hospital System (Kenosha)
 - Aurora Lakeland Medical Center (Elkhorn)
 - Aurora Medical Center –Kenosha
 - Aurora Memorial Hospital of Burlington
 - Wheaton Franciscan Healthcare – All Saints (Racine)
 - SynergyHealth (West Bend)
 - Mercy Health Services (Lake Geneva and Janesville)
(health system commercial market concentration comparisons only)
- Results from previous 2003 through 2006 comparisons restated to reflect additional counties, health systems and hospitals

Study Parameters

Data Sources

- Wisconsin Hospital Association (WHA) Information Center:
 - FY 2003 through 2007
 - Wisconsin Hospital Fiscal Survey
 - Wisconsin Hospital Inpatient Discharge Data

- United States Bureau of Labor Statistics
 - Hospital Component of Consumer Price Index (Hospital CPI)
 - 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 health systems with substantial adult, acute care inpatient hospital operations in Milwaukee, Kenosha, Racine Ozaukee, Washington, Walworth and Waukesha Counties
 - Includes specialty hospitals
 - Orthopedic Hospital of Wisconsin (CSM)
 - Wisconsin Heart Hospital (Wheaton)
 - Excludes Psychiatric, Rehabilitation, and LTAC hospitals
 - Excludes Children's Health System

Included Hospitals and Health Systems

(continued)

- Included health systems
 - Aurora Health Care (Aurora)
 - Columbia St. Mary's (CSM)
 - Froedtert & Community Health (F&CH)
 - ProHealth Care (ProHealth)
 - SynergyHealth (Synergy)
 - United Hospital System (United)
 - Wheaton Franciscan Healthcare (Wheaton)

- Mercy Health Services (Lake Geneva and Janesville) included for health system market concentration comparisons only

Hospital Commercial Payment Comparisons

Hospital Commercial Payment Comparisons

- *Methods*

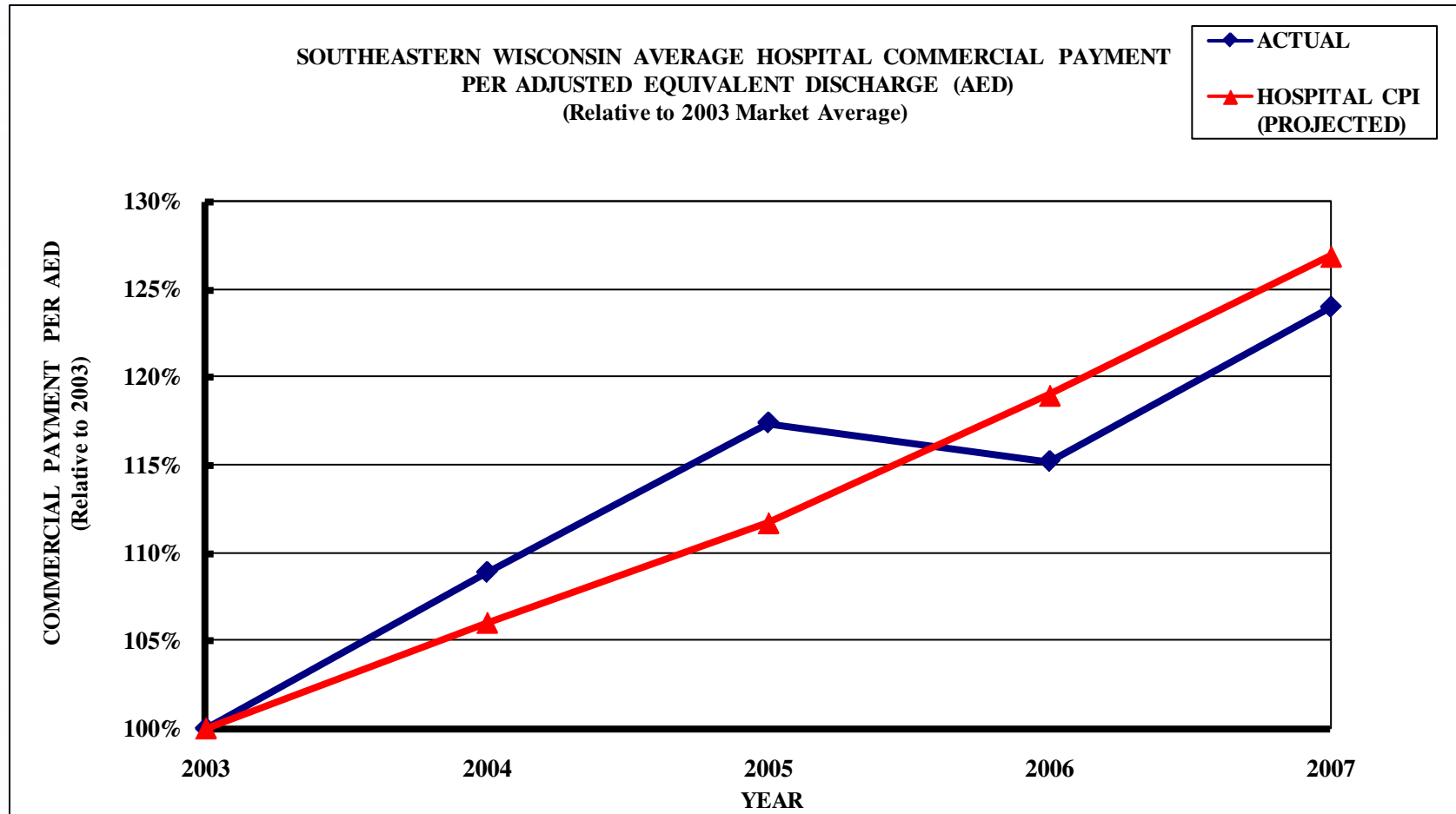
- Comparisons of total net commercial revenues (billed amounts after contractual discounts) as reported in the Wisconsin State Hospital Fiscal Survey
- Total hospital net commercial revenues were converted to per-unit payment levels using commercial “Adjusted Equivalent Discharges” (AED) to adjust for differences in:
 - Relative blend of inpatient and outpatient business
 - Inpatient case mix and severity
 - Outpatient service mix

Hospital Commercial Payment Comparisons

- *Market Average Observations*

- Average Southeastern Wisconsin hospital commercial payments per AED increased approximately 24% from 2003 through 2007
 - The increase is lower than the 27% increase in the national commercial hospital CPI for the same period
 - The decrease in average commercial payment levels in 2006 appears to be the primary cause of the difference

Hospital Commercial Payment Comparisons- *Comparison to National Hospital CPI*

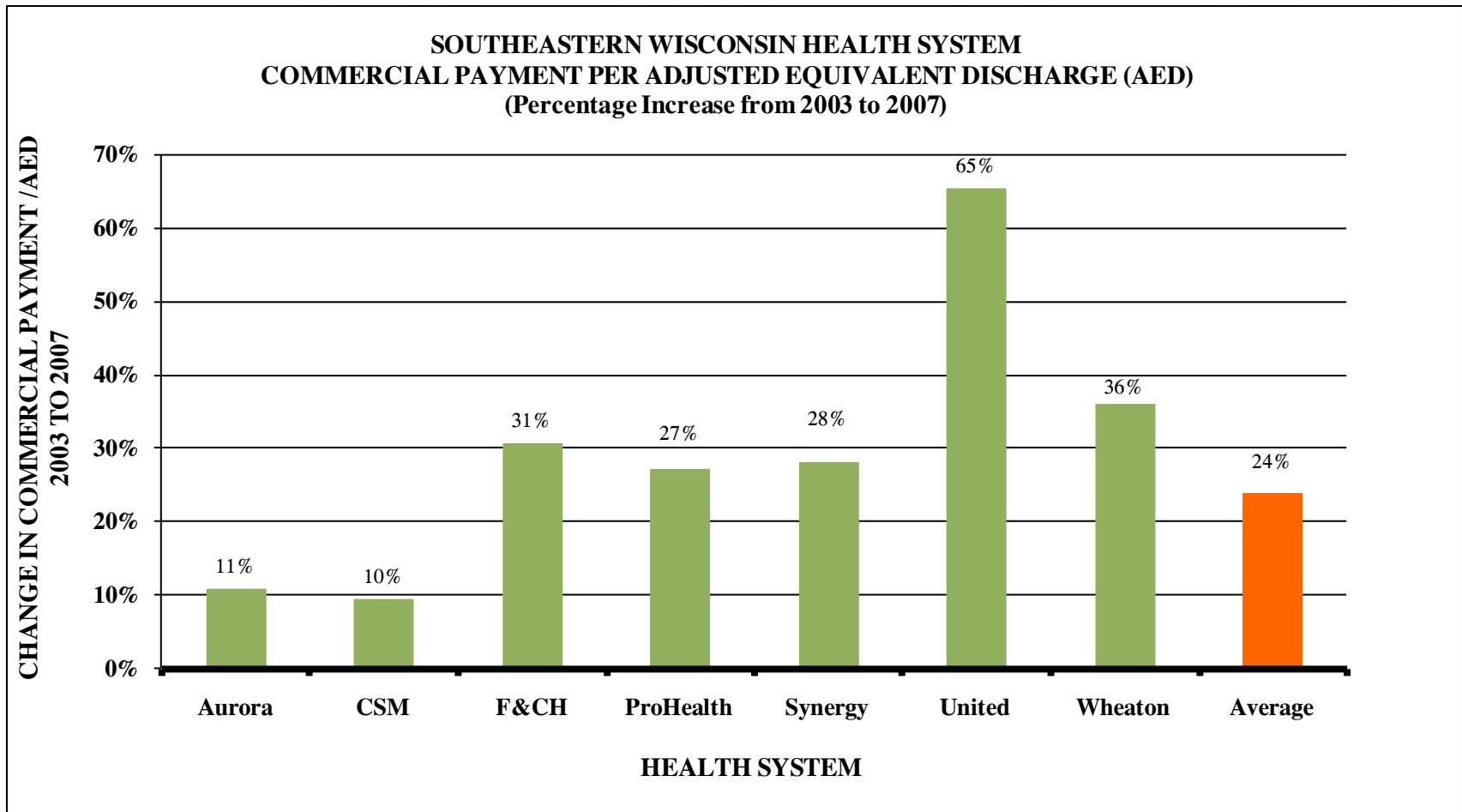


Hospital Commercial Payment Comparisons

- *Individual Health System Observations*

- Increase in individual health system hospital commercial payments per AED from 2003 through 2007 ranged from 10% to 65%
 - Two health systems had substantially lower increases than both market and national averages
 - Columbia - St. Mary's (10%)
 - Aurora (11%)
 - All other health system increases were above both market and national averages
 - United Health System was highest (65%)
 - Other health systems ranged from 27% to 36%

Hospital Commercial Payment Comparisons- *Commercial Payment Increase (2003 – 2007)*



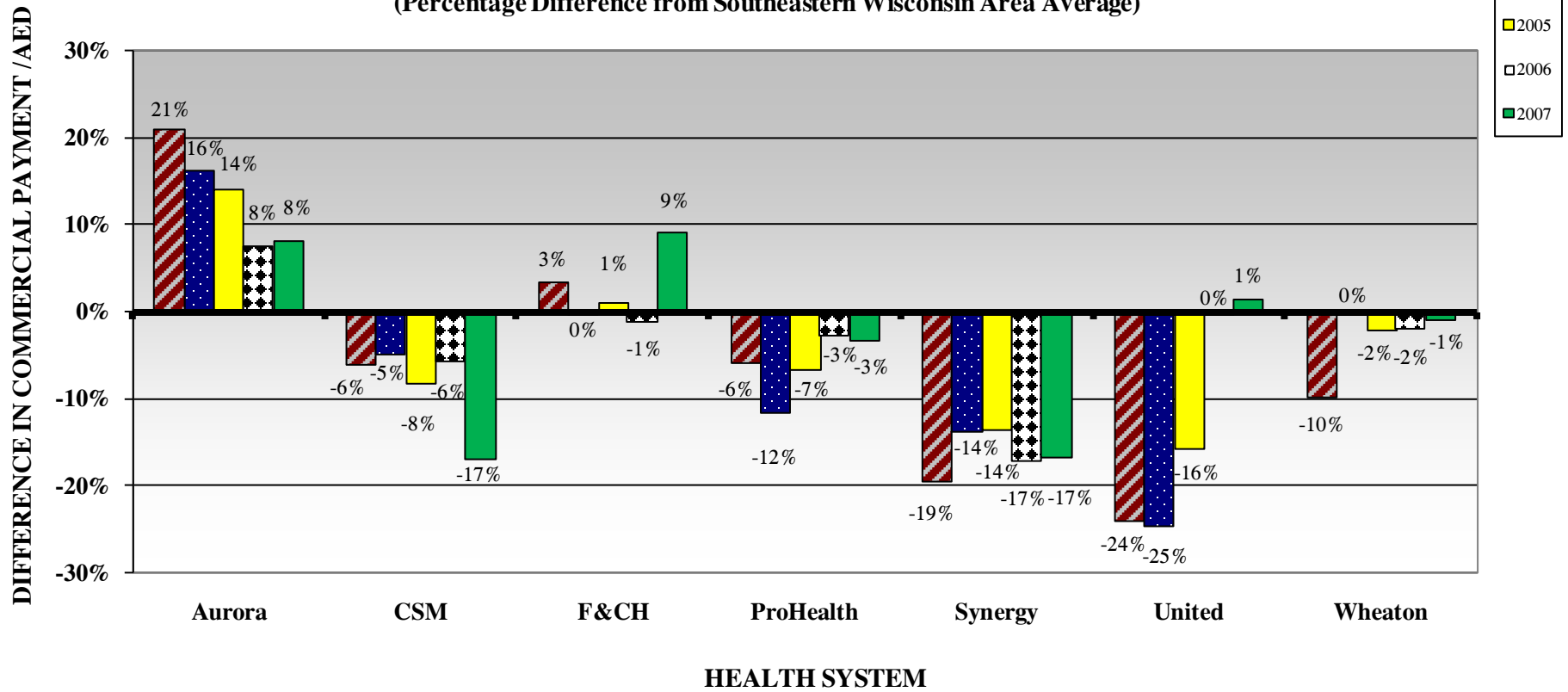
Hospital Commercial Payment Comparisons

- *Individual Health System Observations*

- Individual health system 2007 hospital commercial payment levels vary substantially.
 - Two health systems had significantly lower commercial payment levels than the Southeastern Wisconsin average
 - Columbia - St. Mary's (17% lower)
 - Synergy (17% lower)
 - Two health systems had measurably higher commercial payment levels than the Southeastern Wisconsin average
 - Froedtert & Community Health (9% higher)
 - Aurora (8% higher)
 - Averages for all other health systems were within 3% of the Southeastern Wisconsin average

Hospital Commercial Payment Comparisons- Average Hospital Commercial Payments

SOUTHEASTERN WISCONSIN HEALTH SYSTEM
COMMERCIAL PAYMENT PER ADJUSTED EQUIVALENT DISCHARGE (AED)
(Percentage Difference from Southeastern Wisconsin Area Average)



Hospital Operating Cost Comparisons

Hospital Operating Cost Comparisons

- Our previous study estimated that 2003 Milwaukee area 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

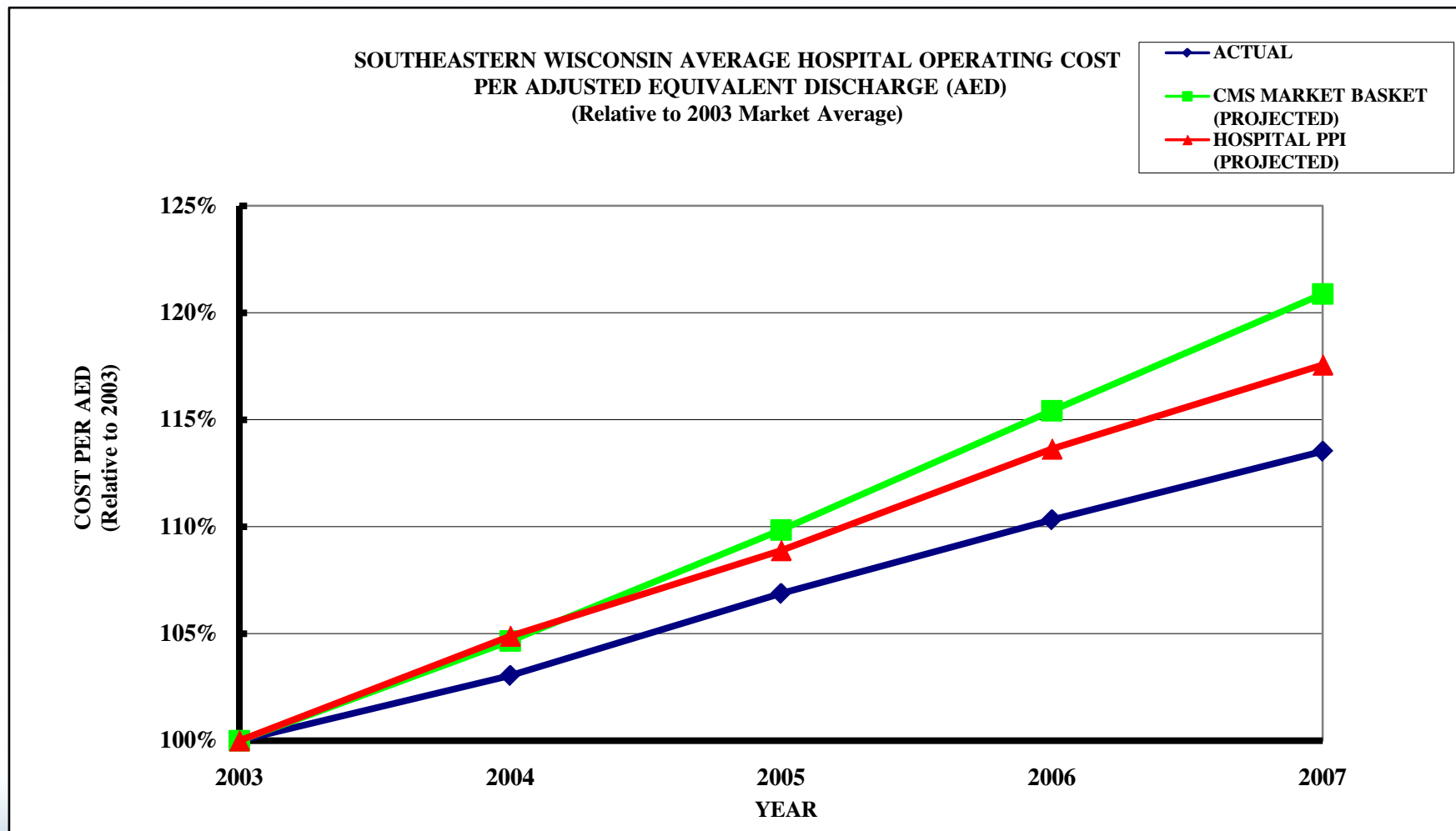
Hospital Operating Cost Comparisons – *Methods (continued)*

- Comparisons of Southeastern Wisconsin market and individual health system average costs are provided
- Annual change in Southeastern Wisconsin market average hospital operating costs compared to national hospital cost inflation indices
 - CMS Market Basket
 - Hospital PPI

Hospital Operating Cost Comparisons - *Market Average Observations*

- Average Southeastern Wisconsin hospital operating costs per AED increased approximately 14% from 2003 through 2007
 - The increase is lower than the 17% to 21% increase in national hospital cost indices for the same period
 - For each year, the actual percentage increase in average Southeastern Wisconsin hospital operating costs was less than the corresponding increase in the national operating cost indices

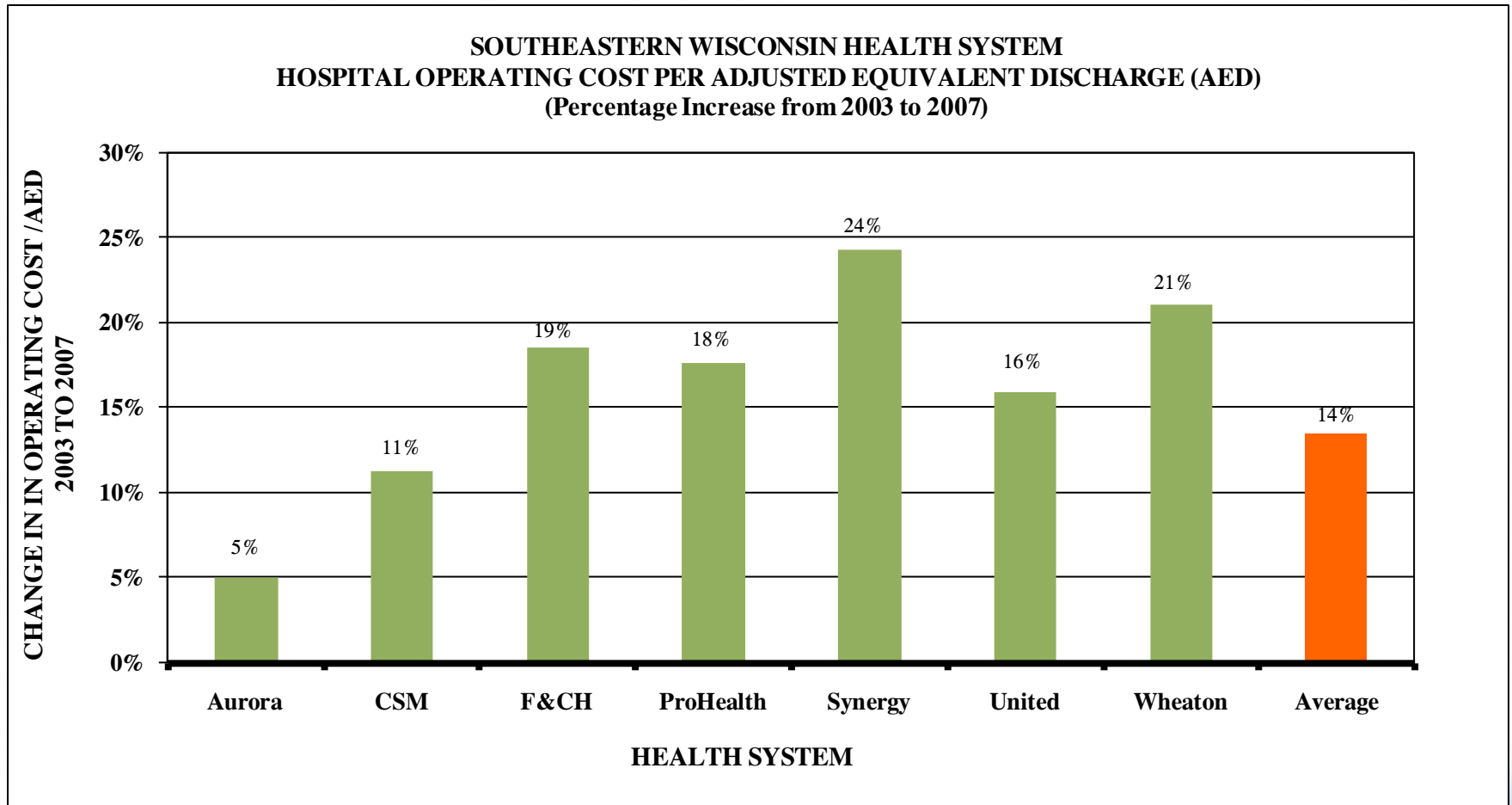
Southeastern Wisconsin Hospital Operating Cost – Comparison to Inflation Indices



Hospital Operating Cost Comparisons - *Health System Observations*

- Southeastern Wisconsin health system increase in hospital operating costs per AED from 2003 through 2007 ranged from 5% to 24%
 - Two health systems experienced increases below both national and market averages
 - Aurora (5%)
 - Columbia – St. Mary's (11%)
 - Two health systems experienced increases above both national and market averages
 - Synergy (24%)
 - Wheaton (21%)

Southeastern Wisconsin Health Systems – Operating Cost Increase (2003 – 2007)

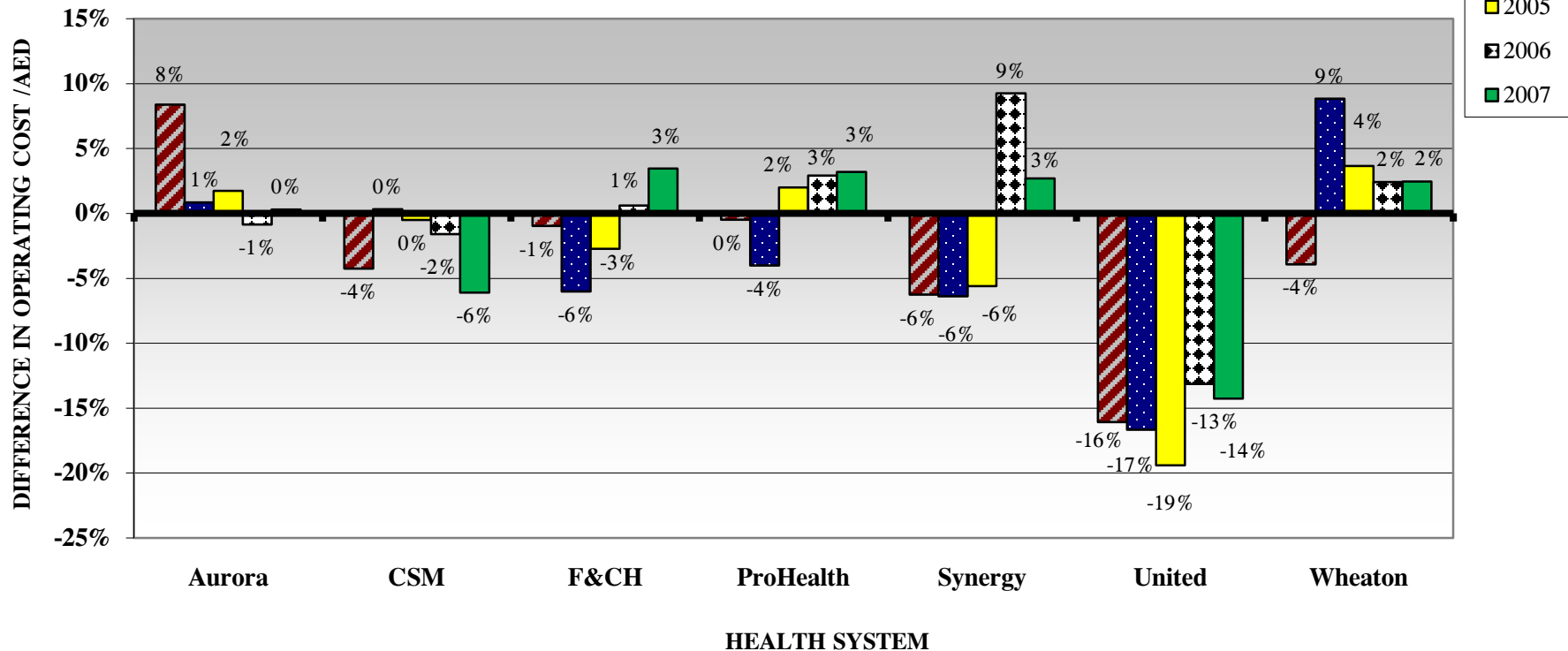


Hospital Operating Cost Comparisons - *Health System Observations*

- 2007 hospital operating cost levels for most health systems were within 3% of the Southeastern Wisconsin average
 - Exceptions:
 - United Hospital System was 14% below the average
 - Columbia – St. Mary's was 6 % below average

Southeastern Wisconsin Health System – Average Hospital Operating Costs

SOUTHEASTERN WISCONSIN HOSPITAL OPERATING COST PER ADJUSTED EQUIVALENT DISCHARGE (AED)
(Percentage Difference from Southeastern Wisconsin Area Average)



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 the Milwaukee area

Southeastern Wisconsin 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 payer payment levels and patient volumes
 - Hospital operating cost and profit levels

Southeastern Wisconsin Aggregate Hospital Cost Shift Burdens

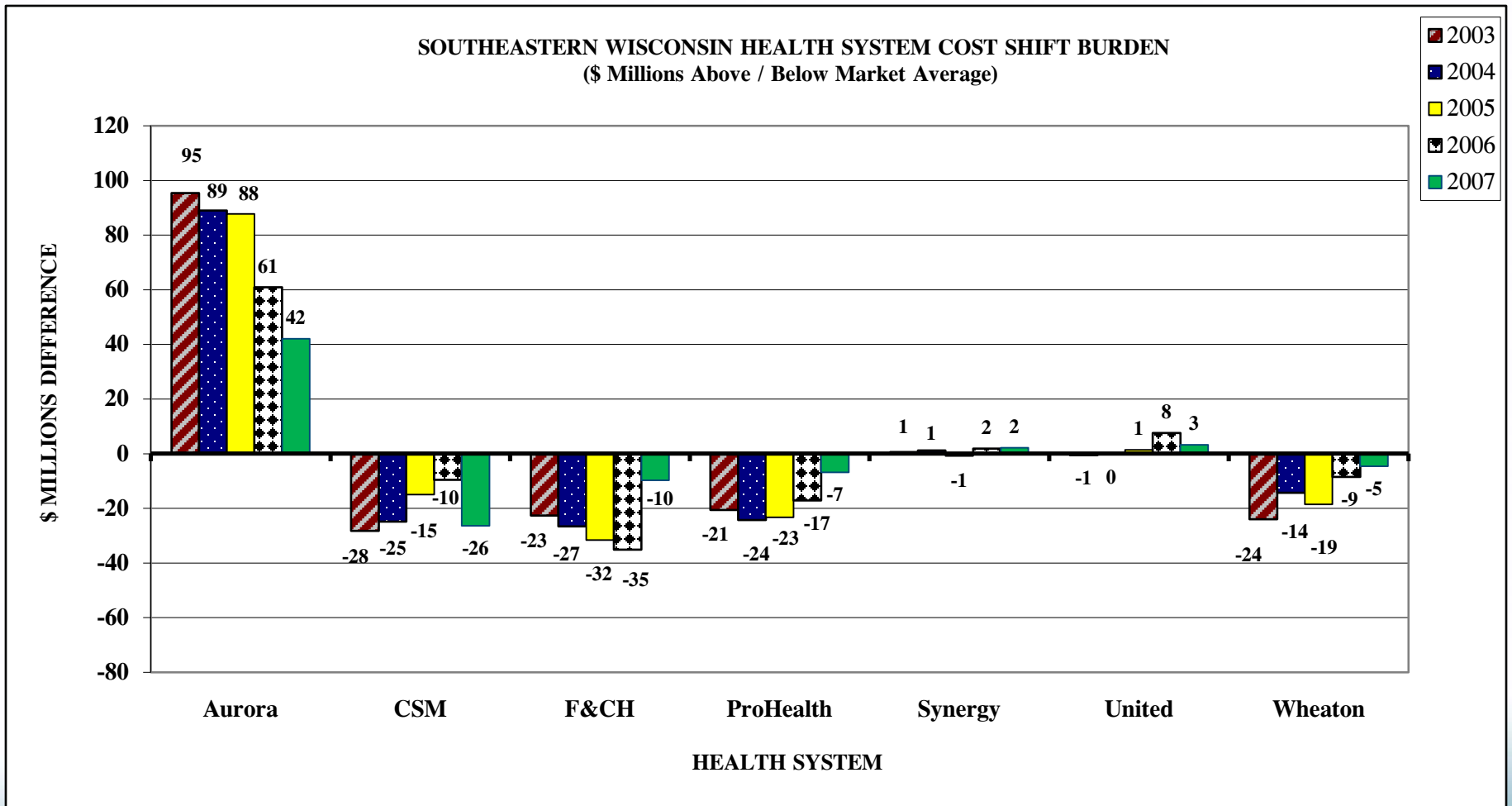
- Total Southeastern Wisconsin hospital cost shift burden for governmental payers increased by 33% from 2003 to 2007 but generally remained a consistent percentage of commercial hospital revenue

TOTAL SOUTHEASTERN WISCONSIN AREA HOSPITAL COST SHIFT BURDEN (\$MILLIONS)					
	2003	2004	2005	2006	2007
MEDICARE	488	547	575	597	618
MEDICAID	180	234	272	251	273
GAMP	14	15	13	11	19
TOTAL	681	797	860	859	910
% of Commercial Payments (Total)	29.1%	31.7%	29.8%	29.1%	29.6%

Changes in Cost Shift Burden Distribution

- Individual health system cost shift burdens generally moved closer to Southeastern Wisconsin averages from 2003 through 2007
 - Higher cost shift burden health systems decreased burden “surplus”
 - Lower cost shift burden health systems decreased burden “deficit”
 - Generally consistent with each health system’s operating cost trends
- Trend of cost shift burden impact on commercial payment levels is similar for most health systems
 - Commercial payment levels also affected by relative increases or decreases in commercial patient volumes

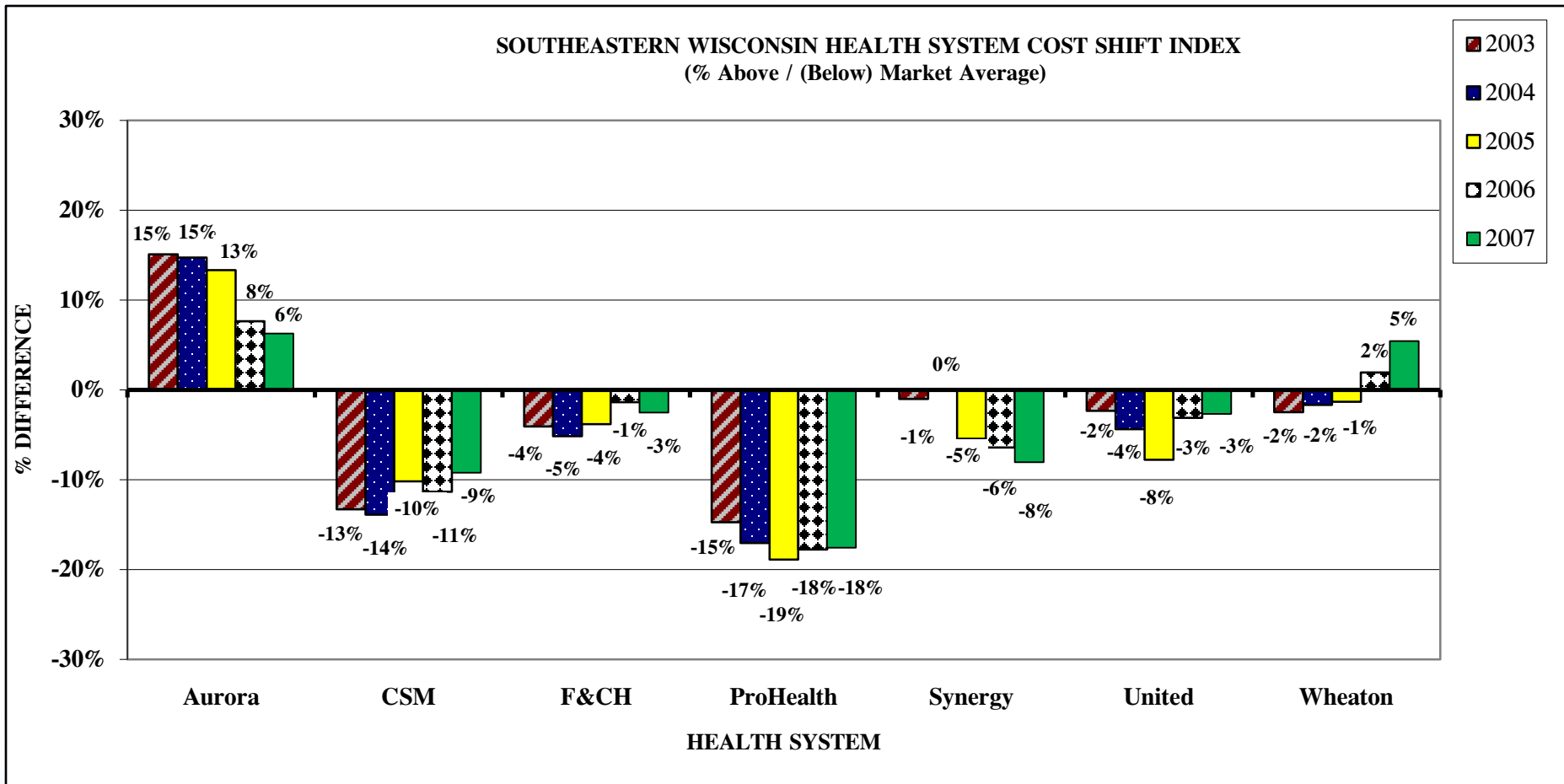
Relative Distribution of Cost Shift Burdens Among Health Systems



Cost Shift Burden Impact on Commercial Pricing – *Methods*

- Health system relative cost shift burden impact on commercial payment levels 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.

Relative Southeastern Wisconsin Cost Shift Impact on Commercial Payments



Health System Commercial Market Concentration

Southeastern Wisconsin Health System Commercial 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

Commercial Market Concentration - *Methods*

- Based on analysis of health system commercial discharge market shares within each Southeastern Wisconsin zip code
- Health system with highest commercial market share in each zip code is defined as the “predominant” health system for that zip code
- Market average comparisons were developed using the weighted averages of “predominant” health system commercial market shares
- Market segment analysis was based on changes in the distribution of commercial discharges among Low, Limited, Moderate and High Competition market share categories

Commercial Market Concentration - *Data*

- Measures used hospital inpatient discharge data obtained from WHA
 - Included only commercial discharges of residents from seven county area to Included Hospitals or Mercy Health Services Lake Geneva or Janesville hospitals
 - Excluded Psychiatric, Rehabilitation, and transfer discharges
 - Excluded Medicare, Medicaid, GAMP, Charity, Self Pay and other non-commercial discharges
 - Excluded seven county area residents discharged from hospitals in other markets (Madison, Green Bay, Fond du Lac, Chicago, etc.)

Southeastern Wisconsin Commercial Market Concentration - *Observations*

- Average “predominant” health system commercial market shares increased from 2004 through 2007
- The percentage of commercial discharges from zip codes with “predominant” health system market shares of more than 50% increased from 52% in 2003 to 65% in 2007.

Southeastern Wisconsin Commercial Market Concentration – *Observations* (continued)

- Increasing “predominant” health system commercial market shares appear to be the result of:
 - Declining commercial admission volumes in areas of higher competition
 - Increasing or stable commercial admission volumes in areas of lesser competition
 - Increasing “predominant” health system commercial market shares in many zip codes

Southeastern Wisconsin Commercial Market Concentration - *Observations* (continued)

- Each health system's average commercial market shares appear to be the result of higher market shares in a smaller number of zip codes rather than a smaller market share across most zip codes
 - The average commercial market share of the largest health system in Southeastern Wisconsin is about one-half of the average “predominant” health system market share in each year

Southeastern Wisconsin Commercial Market Concentration - *Observations* (continued)

▪ Preference for Closest Hospitals:

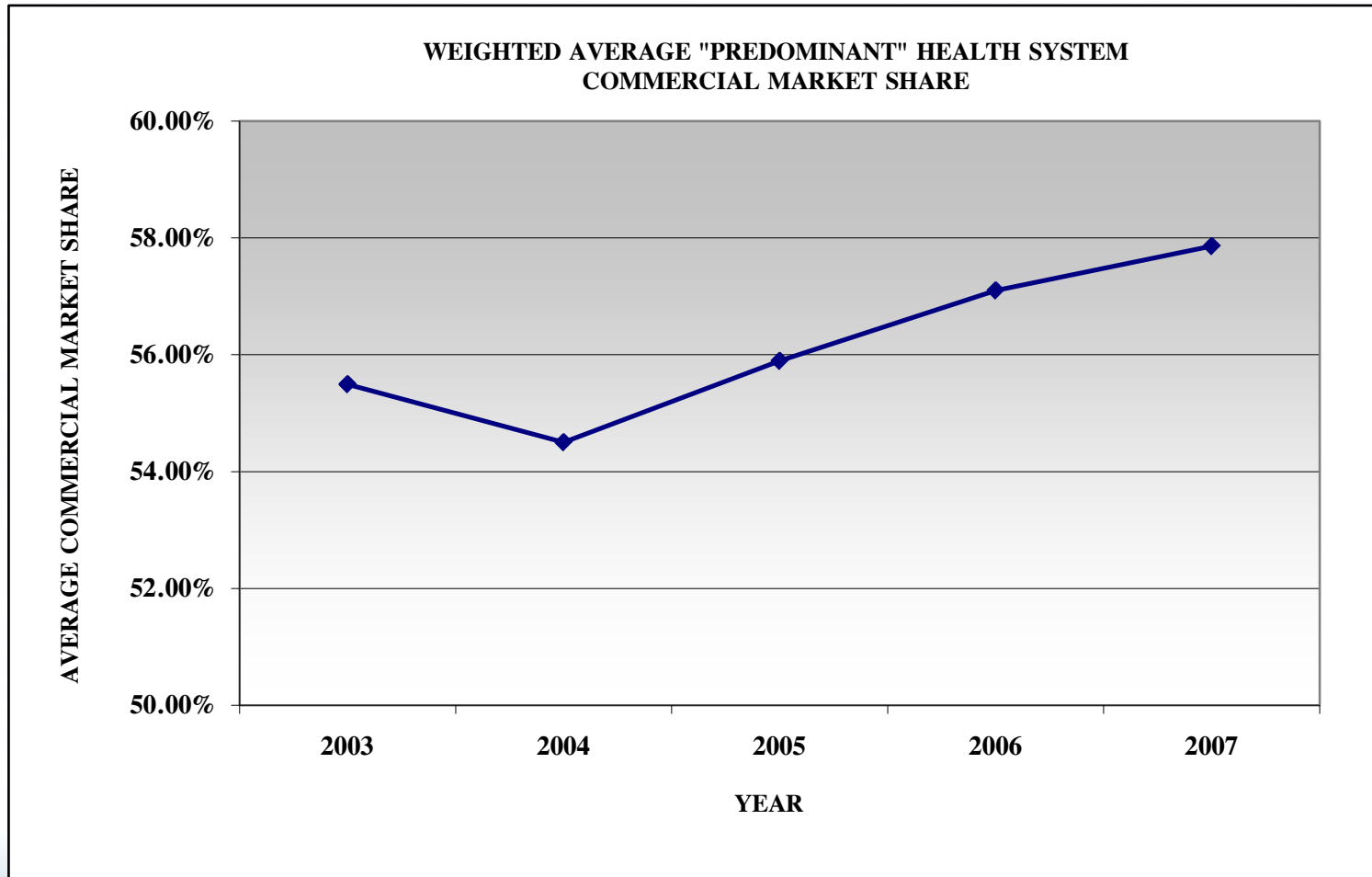
- Health system commercial market shares appeared to be related to hospital proximity in most zip codes. Health systems most closely located to zip codes usually had the highest commercial market shares within those zip codes
- “Predominant” health system commercial market shares tended to be higher when competitors were located farther away than when competitors were in close proximity
- Pattern is consistent for duration of study period (2003 – 2007)

Commercial Market Concentration – Average Market Measurement Methods

▪ Market Average Comparisons

- Used commercial discharges to calculate each health system's market share for each Southeastern Wisconsin zip code (130 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

Southeastern Wisconsin Average “Predominant” Health System Market Shares



Commercial Market Concentration – *Segment Measurement Methods*

▪ Comparisons of Market Segments

- 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 Southeastern Wisconsin commercial discharges among the four categories

Commercial Market Share Segment Definitions

- 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%

Southeastern Wisconsin Commercial Market Share Segment Characteristics

- Low Competition

- Communities in Ozaukee, Racine or Waukesha Counties near single health system hospitals located relatively far from competitor hospitals (Cedarburg, Waukesha, Mukwonago, Racine, Burlington)

- Limited Competition

- Primarily Milwaukee area suburban zip codes or Kenosha area zip codes located in similar proximity to hospitals from two competitor health systems (Kenosha, Pewaukee, Hales Corners, Union Grove, Pleasant Prairie)

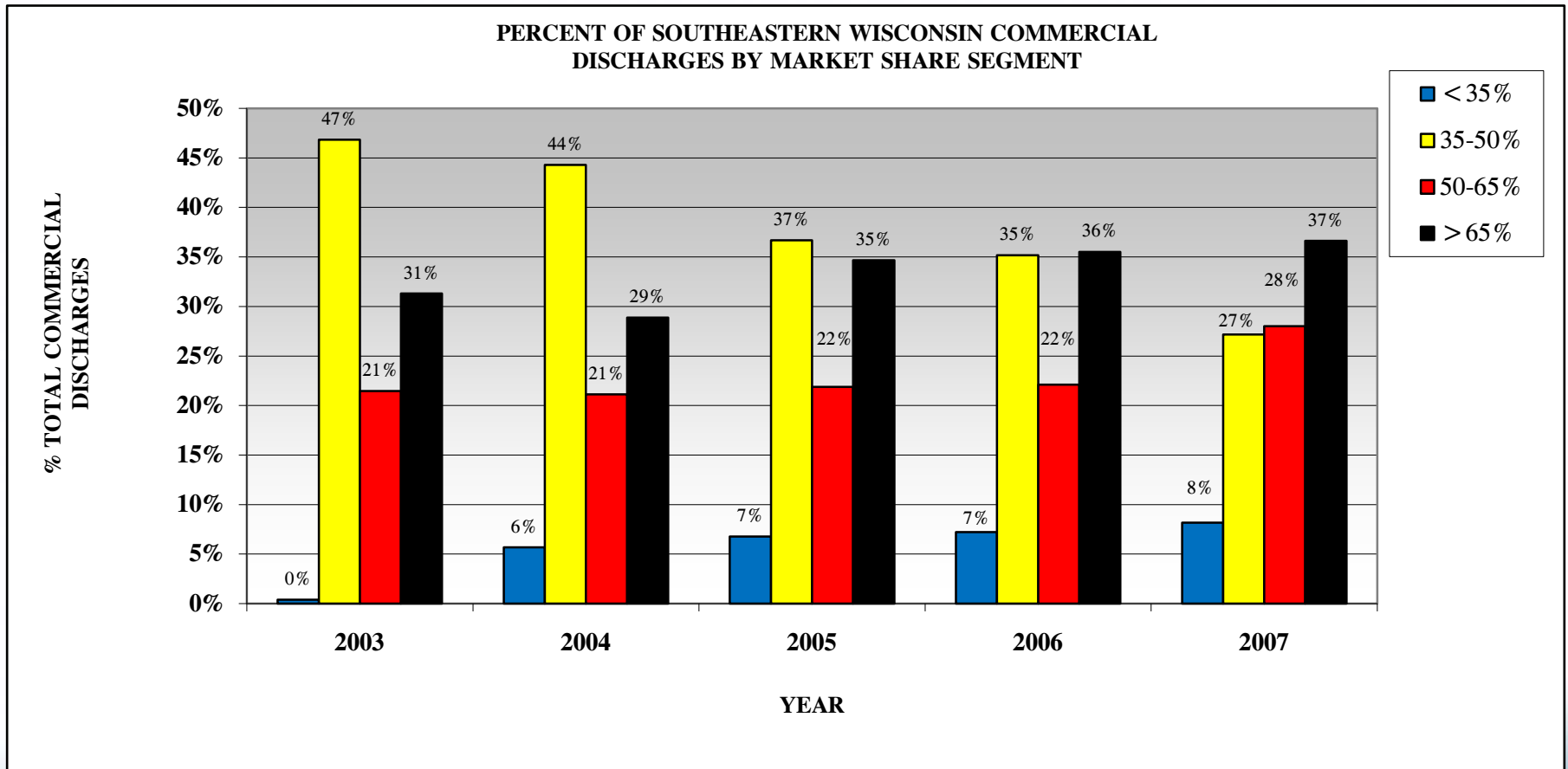
- Moderate Competition

- Primarily Milwaukee area zip codes in similar proximity to hospitals from more than two competitor health systems (Milwaukee, Muskego, New Berlin)

- High Competition

- Limited number of Northwest and Central Milwaukee County zip codes

Southeastern Wisconsin Commercial Discharges by Market Segment



Southeastern Wisconsin Commercial Market Concentration – *Segment Observations*

- Combined Moderate and High Competition zip code commercial discharge volumes declined from 50% in 2004 to 35% in 2007
 - Total commercial discharge volumes declined by as much as 49% in some City of Milwaukee zip codes
 - General shift from commercial to government or self-pay in affected zip codes
 - Resulting payer mix changes increased cost shift burdens of affected health systems

Southeastern Wisconsin Commercial Market Concentration – *Segment Observations* (continued)

- Low and Limited Competition zip codes:
 - Increased from approximately 50% of market in 2004 to approximately 65% of market in 2007
 - Low Competition market share increased from 29% in 2004 to 37% in 2007
 - Limited Competition market share increased from 22 % in 2006 to 28% in 2007
 - Had “predominant” health system market shares that were usually stable or increasing
 - Have relatively stable or growing percentages of the total Southeastern Wisconsin commercial discharges.

Southeastern Wisconsin Commercial Market Concentration – *Segment Observations* (continued)

- Some health systems are affected more than others by the declining Milwaukee commercial discharge volumes
 - May move zip code to Limited or Low Competition category if “Predominant Health System” affected less than competitors
- “Predominant” health systems have stable market positions within most zip codes
 - Same “predominant” health system each year from 2003 through 2007 in 90% of zip codes

Caveats

- Hospital commercial payment and operating cost comparisons are based on hospital financial reports filed with WHA. To the extent health systems use different methods to account for the commercial payments or 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 (Physicians, Home Health, Retail Pharmacy) 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

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