## MILLIMAN 2012 HOSPITAL OPERATING COST AND PERFORMANCE BENCHMARKS REPORT

Prepared for North Gunther Hospital Medicare ID 000001 August 06, 2012





# **TABLE OF CONTENTS**

Introduction: Benchmarking Your Hospital	3
Section 1: Hospital Operating Costs	5
Section 2: Margins	10
Section 3: Hospital Billed Charges	16
Section 4: RVU-Weighted Length-of-Stay Relativities	20
Section 5: Methodology	26
Appendix A	30
Licensing Agreement	31
MP OR	

SKR

The Milliman Hospital Operating Cost and Performance Report uses Medicare facility claims and cost report data, as well as proprietary research, to establish objective comparisons and peer comparison benchmarks for hospitals. This report is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

# INTRODUCTION: BENCHMARKING YOUR HOSPITAL

In this challenging and changing healthcare environment, hospitals need to understand their competitive position and manage operating costs as efficiently as possible. The Milliman Hospital Operating Cost and Performance Benchmarks combine Medicare cost reports and fee-for-service (FFS) experience data with Milliman benchmarks and case-mix and severity adjustment methodologies to help you understand your operating costs and financial performance relative to other hospitals. The results of this report allow you to benchmark your hospital against a set of peer facilities, as well as statewide and nationwide averages, and identify areas of excellence and areas in need of improvement.

## **Research and Public Data Combined**

Our reports are based on independent and unbiased research, and data from multiple publicly available sources. Milliman consultants have extensive experience helping hospitals benchmark their costs and other performance measures in order to assess their relative competitiveness, uncover areas for improvement, and assist in data-driven contract negotiations.

We relied on FFS experience data from the Medicare Provider Analysis and Review (MedPAR) dataset, the Outpatient Prospective Payment System (OPPS) data file, and Medicare cost reports. These datasets are used universally in the healthcare industry, and we believe these are the best available resources for this analysis. We have not audited or verified this data. If the underlying data or information is inaccurate or incomplete, the results of this report may likewise be inaccurate or incomplete.

Several of our analyses use Millimans RBRVS for Hospitals<sup>TM</sup> (Resource Based Relative Value System) in order to normalize the claims data for hospital case-mix and severity and produce metrics that are comparable between hospitals. For detailed information related to the Milliman RBRVS for Hospitals approach, please refer to Appendix A, page 30. In brief, our approach assigns Relative Value Units (RVUs) to hospital inpatient and outpatient services. RVUs represent the relative amount of resources required for each service. For example, dividing operating costs by total RVUs for a given hospital produces an operating cost conversion factor, which measures the relative operating cost per RVU. These conversion factors can be compared directly across hospitals. A hospital with a higher conversion factor is receiving a higher reimbursement per unit of work than a hospital with a lower conversion factor. We have developed the RVUs in order to provide a superior case-mix and severity adjustment relative to other sources of relative weights, such as Medicare relative weights.

## **Your Customized Report**

Below is a summary of the specific selections for this personalized report, including your peer group.

Your selected state

Your selected hospital

Your selected peer group

AA

North Gunther Hospital (000001)

Byers Medical Center (000003)
Dillard Medical Center (000006)
East Merrill Hospital (000005)
Fitzpatrick Regional Hospital (000007)
Hopper Community Hospital (000011)
McPherson Memorial Hospital (000008)
South Gunther Hospital (000002)
South Pickett Hospital (000009)
West Merrill Hospital (000004)
West Pickett Hospital (000010)



# **SECTION 1: HOSPITAL OPERATING COSTS**

Reimbursement requirements are affected by provider operating costs. Therefore, to provide further insight into the reasons behind the differences in commercial reimbursement, we provide a relative comparison of hospital operating costs on a geographically adjusted basis using the Medicare reimbursement geographic adjustment factors. Please note that operating costs are the only geographically adjusted metric in this report. The relativities for operating costs are calculated using data from Medicare cost reports and publicly released Medicare FFS claim files, along with Millimans RBRVS for Hospitals. The nationwide total hospital cost conversion factor statistic is used as the denominator in all relativities. In other words, if a particular hospital has an inpatient medical operating cost relativity of 1.05, their adjusted costs are approximately 5% higher than the nationwide average total hospital cost conversion factor. Table 1, page 7, presents results for the base hospital and peer hospitals, and includes statewide and nationwide operating cost comparisons. These relativities should be reviewed to determine the relative cost efficiency of facilities. By adjusting hospital operating cost benchmarks for case-mix complexity and severity level in both inpatient and outpatient operations from publicly available datasets, we create a generally appropriate apples-to-apples comparison of cost efficiencies between hospitals. The adjustments help remove erroneous conclusions that may be drawn from reviewing unadjusted metrics. These metrics also help identify areas of competitive cost advantage and areas in need of improvement by comparing relative costs between facilities and benchmarking against statewide and national averages.

Table 1 shows the base hospital, the 10 selected peer hospitals, statewide average, and nationwide average. Discharges are summarized for each hospital in order to provide perspective on the relative size of the hospital. The nationwide operating cost relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of performance within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the performance of a category (such as inpatient) for a particular hospital it is important to review the operating cost relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor.

The bars in Exhibit 1A, page 8, and Exhibit 1B, page 9, represent the volume of operating costs for each hospital, with the scale on the right side of the graph. Cost relativities for each hospital, statewide average, and nationwide average are represented by colored dots, with the scale presented on the left side of the graph. Exhibit 1A shows operating cost relativities for inpatient services and Exhibit 1B shows the analogous graph for outpatient services.

# **Calculation: Operating Cost Relativity**

## Operating Cost Relativity = B ÷ A, where

A = (National Total Hospital Operating Costs) ÷ (National Total Hospital RVUs), and

B = (Hospital Specific Operating Costs) ÷ (Hospital Specific RVUs)

Operating Costs = (Medicare Cost Report Cost to Charge Ratios) × (Medicare reported Billed Charges)



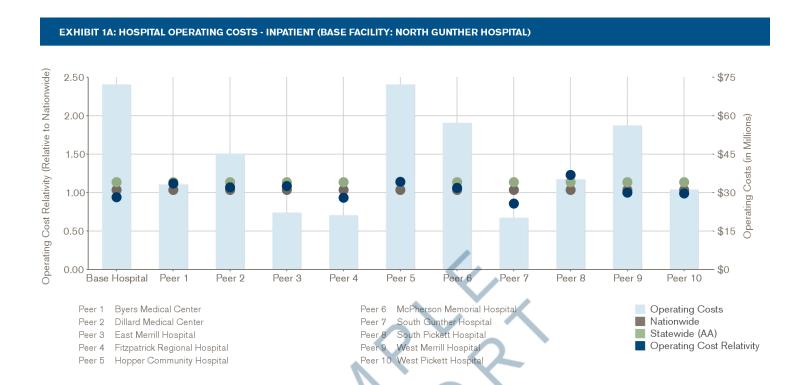
#### TABLE 1: HOSPITAL OPERATING COSTS (CASE-MIX, SEVERITY, AND GEOGRAPHICALLY ADJUSTED)

					OPERATING COST RELATIVITY						
						OUTPATIENT (CY 2010)					
	STATE	DISCHARGES (FY 2010)	LOS RELATIVITY(1)	INPATIENT (FY 2010)	ER	SURG	RAD	LAB	OTHER	OP TOTAL	HOSPITAL TOTAL(2)
Nationwide Average		3,283	1.00	1.03	1.04	0.87	0.89	1.27	0.87	0.90	1.00
Statewide Average	AA	2,663	1.00	1.14	1.22	0.89	0.95	1.61	0.85	0.95	1.09
North Gunther Hospital	AA	6,680	1.01	0.94	1.06	0.57	0.47	0.96	0.80	0.66	0.88
Byers Medical Center	AA	3,116	1.01	1.12	1.01	0.83	0.82	1.35	0.74	0.88	1.09
Dillard Medical Center	AA	4,194	0.86	1.07	0.89	0.85	0.97	1.39	1.27	0.98	1.05
East Merrill Hospital	AA	2,136	0.95	1.08	1.07	0.54	0.77	1.22	0.80	0.68	0.98
Fitzpatrick Regional Hospital	AA	2,174	1.08	0.93	0.93	0.69	0.68	1.01	0.75	0.76	0.90
Hopper Community Hospital	AA	5,868	0.99	1.14	0.71	1.04	0.76	1.61	0.67	0.88	1.08
McPherson Memorial Hospital	AA	5,404	0.97	1.06	1.13	0.68	0.65	1.03	0.70	0.75	1.00
South Gunther Hospital	AA	2,306	1.02	0.86	0.63	0.60	0.71	1.58	0.65	0.69	0.82
South Pickett Hospital	AA	2,725	0.98	1.23	1.14	0.84	0.64	1.44	0.98	0.89	1.17
West Merrill Hospital	AA	4,158	1.10	1.00	0.79	0.70	0.91	1.39	0.88	0.80	0.97
West Pickett Hospital	AA	2,754	0.98	0.99	0.96	0.86	0.87	1.45	1.02	0.93	0.98

<sup>(1)</sup> RVU-Weighted LOS Relativity reflects the hospital specific RVU-Weighted LOS relative to the nationwide average. Refer to Appendix A for additional details.

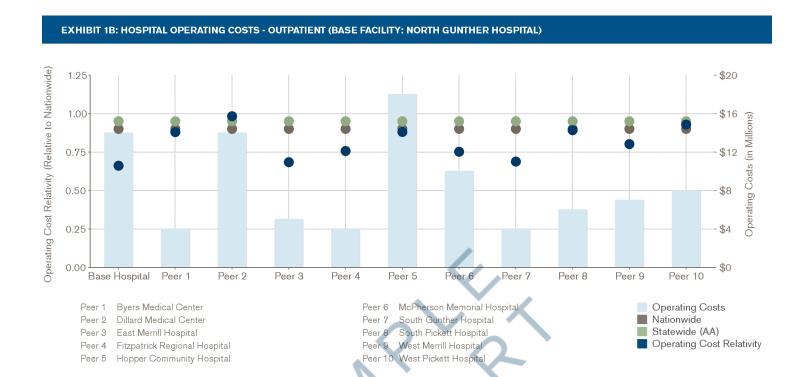
These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with attributes and limitations listed in the Methodology section of the report has been excluded. Estimated operating costs have been geographically adjusted using the Medicare reimbursement geographic adjustment factors. The nationwide operating cost relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of performance within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the performance of a category (such as inpatient) for a particular hospital it is important to review the operating cost relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor. The information presented is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

<sup>(2)</sup> Each hospital operating cost relativity is calculated relative to the nationwide hospital average on a geographically adjusted basis.



Results are based on case-mix and severity-adjusted 2010 Medicare claims data and Medicare cost reports. The statewide and nationwide averages include data from the base hospital.

These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with attributes and limitations listed in the Methodology section of the report has been excluded. Estimated operating costs have been geographically adjusted using the Medicare reimbursement geographic adjustment factors. The nationwide operating cost relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of performance within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the performance of a category (such as inpatient) for a particular hospital it is important to review the operating cost relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor. The information presented is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.



Results are based on case-mix and severity-adjusted 2010 Medicare claims data and Medicare cost reports. The statewide and nationwide averages include data from the base hospital.

These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with attributes and limitations listed in the Methodology section of the report has been excluded. Estimated operating costs have been geographically adjusted using the Medicare reimbursement geographic adjustment factors. The nationwide operating cost relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of performance within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the performance of a category (such as inpatient) for a particular hospital it is important to review the operating cost relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor. The information presented is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

# **SECTION 2: MARGINS**

In many parts of the country, Medicare payments do not cover hospital costs for Medicare patients. As a result, those losses are often covered through higher payment from commercial payers. We provide a summary of all-payer operating margins and Medicare operating margins (using Medicare cost report data) to show the degree of Medicare subsidization. The Medicare margins have been calculated net of disproportionate share and medical education (DSH/IME) payments in order to provide a basis that is more comparable between hospitals. Our reports provide revenue, expenses, DSH/IME payments, income and margin detail for the most current year available. In order to understand trends in margins, historical margins for the three most recent years of available data are also presented. Note that operating margin only includes patient care operating revenue and excludes investment income, non-operating income, etc.

Table 2A, "FY 2010 Hospital Margins," page 11, shows expenses, revenue, income, and margins for 2010. Margins by year for 2008-2010 are presented in Table 2B, page 12. Data in these tables represent the base hospital, selected peer hospitals, statewide average, and nationwide average. Discharges are summarized for each hospital in order to provide perspective on the relative size of the hospital. Margins are calculated as the difference between operating revenue and operating expenses (the Medicare margins also remove DSH/IME payments), expressed as a percentage of operating revenue.

Since Medicare reimbursement rates are the same for all hospitals in each geographic area with the exception of DSH/IME payments for inpatient services the Medicare margins are more directly comparable across hospitals and essentially provide another operating cost benchmark. We have shown the DSH/IME payments on Table 2A for each hospital to help the reader see the impact these payments have for specific facilities.

Margins can be affected by a large number of factors such as bad debt, charity care, commercial contract yields, payer mix, occupancy and operating costs. Care should be used, in light of these factors, when trying to assess the margin drivers for a specific hospital. Table 2C, page 13, shows DSH/IME payments as a percentage of Medicare revenue, occupancy rates and patient mix by payer as calculated using data from the Medicare cost reports.

Exhibit 2a, page 14, and exhibit 2b, page 15, show fiscal years 2008, 2009 and 2010 margin levels for all-payer and Medicare business respectively.

#### TABLE 2A: FY 2010 HOSPITAL OPERATING MARGINS (DOLLAR AMOUNTS SHOWN IN MILLIONS)

				ALL P	AYER (INCLU	IDING MED	ICARE)			MEDIC	ARE				
	STATE	DISCHARGES (FY 2010)	LOS(1)	A REVENUES	B EXPENSES	C = A - B INCOME	D = C / A OPERATING MARGIN	E REVENUES	F EXPENSES	G = (E - F) / E GROSS OPERATING MARGIN(2)	H DSH/IME	I = E - F - H INCOME NET OF DSH/IME	J = I/(E - H ) OPERATING MARGIN NET OF DSH/IME(3)		
Nationwide Average		3,283	1.00	\$214	\$202	\$12	5.61%	\$50	\$51	(2.47%)	\$5	(\$6)	(13.93%)		
Statewide Average	AA	2,663	1.00	\$256	\$239	\$17	6.66%	\$50	\$55	(10.71%)	\$7	(\$12)	(28.07%)		
North Gunther Hospital	AA	6,680	1.01	\$526	\$459	\$67	12.74%	\$122	\$109	10.63%	\$19	(\$6)	(5.47%)		
Byers Medical Center	AA	3,116	1.01	\$157	\$184	(\$27)	(17.41%)	\$44	\$45	(1.66%)	\$8	(\$9)	(24.39%)		
Dillard Medical Center	AA	4,194	0.86	\$412	\$377	\$35	8.45%	\$67	\$74	(10.45%)	\$4	(\$11)	(18.07%)		
East Merrill Hospital	AA	2,136	0.95	\$231	\$221	\$10	4.22%	\$26	\$31	(16.36%)	\$2	(\$6)	(24.85%)		
Fitzpatrick Regional Hospital	AA	2,174	1.08	\$146	\$135	\$11	7.36%	\$33	\$31	4.52%	\$2	(\$1)	(2.82%)		
Hopper Community Hospital	AA	5,868	0.99	\$469	\$457	\$12	2.55%	\$91	\$111	(21.63%)	\$4	(\$24)	(27.68%)		
McPherson Memorial Hospital	AA	5,404	0.97	\$311	\$291	\$21	6.69%	\$77	\$81	(4.46%)	\$8	(\$11)	(16.08%)		
South Gunther Hospital	AA	2,306	1.02	\$140	\$136	\$4	2.75%	\$37	\$32	11.21%	\$8	(\$4)	(14.25%)		
South Pickett Hospital	AA	2,725	0.98	\$297	\$305	(\$8)	(2.66%)	\$57	\$53	6.85%	\$20	(\$16)	(42.9%)		
West Merrill Hospital	AA	4,158	1.10	\$275	\$263	\$12	4.48%	\$78	\$70	10.22%	\$21	(\$13)	(23.64%)		
West Pickett Hospital	AA	2,754	0.98	\$203	\$216	(\$13)	(6.31%)	\$55	\$49	11.58%	\$12	(\$6)	(13.42%)		

<sup>(1)</sup> RVU-Weighted LOS Relativity reflects the hospital specific RVU-Weighted LOS relative to the nationwide average. Refer to Appendix A for additional details.

(2) Medicare operating margin including DSH/IME is presented in order to provide a basis that is more comparable to All Payer margin.

These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

<sup>(3)</sup> Medicare operating margin excluding DSH/IME is presented in order to provide a basis that is more comparable between hospitals.

#### TABLE 2B: FY 2008-2010 HOSPITAL OPERATING MARGINS

				FY 2010			FY 2009			FY 2008	
	STATE	DISCHARGES (FY 2010)	ALL PAYER	MEDICARE (1)	MEDICARE NET OF DSH/IME(2)	ALL PAYER	MEDICARE (1)	MEDICARE NET OF DSH/IME(2)	ALL PAYER	MEDICARE (1)	MEDICARE NET OF DSH/IME(2)
Nationwide Average		3,283	5.61%	(2.47%)	(13.93%)	4.11%	(3.37%)	(14.85%)	1.43%	(5.4%)	(17.26%)
Statewide Average	AA	2,663	6.66%	(10.71%)	(28.07%)	3.96%	(7.66%)	(25.23%)	2.19%	(9.77%)	(28.4%)
North Gunther Hospital	AA	6,680	12.74%	10.63%	(5.47%)	10.12%	17.44%	(1.07%)	13.22%	19.63%	0.61%
Byers Medical Center	AA	3,116	(17.41%)	(1.66%)	(24.39%)	6.81%	0.92%	(20.02%)	(9.19%)	1.73%	(19.44%)
Dillard Medical Center	AA	4,194	8.45%	(10.45%)	(18.07%)	7.46%	(4.29%)	(16.6%)	3.59%	(16.13%)	(33.18%)
East Merrill Hospital	AA	2,136	4.22%	(16.36%)	(24.85%)	6.43%	(13.05%)	(22.07%)	5.65%	(8.45%)	(24.4%)
Fitzpatrick Regional Hospital	AA	2,174	7.36%	4.52%	(2.82%)	4.48%	0.21%	(7.96%)	(2.91%)	10.12%	3.44%
Hopper Community Hospital	AA	5,868	2.55%	(21.63%)	(27.68%)	12.26%	(14.35%)	(22.86%)	4.50%	(14.72%)	(23.02%)
McPherson Memorial Hospital	AA	5,404	6.69%	(4.46%)	(16.08%)	4.19%	(2.04%)	(12.21%)	(3.31%)	(4.55%)	(14.25%)
South Gunther Hospital	AA	2,306	2.75%	11.21%	(14.25%)	1.43%	34.98%	4.93%	(13.52%)	23.15%	(5.2%)
South Pickett Hospital	AA	2,725	(2.66%)	6.85%	(42.9%)	(5.14%)	6.79%	(42.75%)	1.48%	4.73%	(45.71%)
West Merrill Hospital	AA	4,158	4.48%	10.22%	(23.64%)	2.53%	13.18%	(19.76%)	5.02%	7.77%	(28.74%)
West Pickett Hospital	AA	2,754	(6.31%)	11.58%	(13.42%)	(0.86%)	10.30%	(14.98%)	0.60%	8.61%	(16.9%)

<sup>(1)</sup> Medicare operating margin including DSH/IME is presented in order to provide a basis that is more comparable to All Payer margin.
(2) Medicare operating margin excluding DSH/IME is presented in order to provide a basis that is more comparable between hospitals.

These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

#### TABLE 2C: FY 2010 HOSPITAL OPERATING MARGIN AND OTHER FINANCIAL METRICS

					MEDICARE MARGIN				PATIEN	IT DISTRIBU	TION(4)
	STATE	DISCHARGES (FY 2010)	LOS RELATIVITY (1)	ALL PAYER MARGIN	INCLUDING DSH/IME(2)	NET OF DSH/IME(3)	DSH/IME	OCCUPANCY RATE	MEDICARE	MEDICAID	ALL OTHER
Nationwide Average		3,283	1.00	5.61%	(2.47%)	(13.93%)	10.06%	63.99%	32.87%	14.56%	52.56%
Statewide Average	AA	2,663	1.00	6.66%	(10.71%)	(28.07%)	13.56%	64.30%	24.30%	16.85%	58.85%
North Gunther Hospital	AA	6,680	1.01	12.74%	10.63%	(5.47%)	15.27%	67.43%	28.53%	13.14%	58.33%
Byers Medical Center	AA	3,116	1.01	(17.41%)	(1.66%)	(24.39%)	18.27%	67.41%	24.32%	21.69%	53.99%
Dillard Medical Center	AA	4,194	0.86	8.45%	(10.45%)	(18.07%)	6.46%	50.11%	23.65%	0.85%	75.51%
East Merrill Hospital	AA	2,136	0.95	4.22%	(16.36%)	(24.85%)	6.80%	62.71%	14.57%	1.41%	84.02%
Fitzpatrick Regional Hospital	AA	2,174	1.08	7.36%	4.52%	(2.82%)	7.14%	56.46%	22.39%	20.38%	57.23%
Hopper Community Hospital	AA	5,868	0.99	2.55%	(21.63%)	(27.68%)	4.74%	89.39%	24.41%	8.62%	66.97%
McPherson Memorial Hospital	AA	5,404	0.97	6.69%	(4.46%)	(16.08%)	10.01%	65.10%	26.14%	13.20%	60.66%
South Gunther Hospital	AA	2,306	1.02	2.75%	11.21%	(14.25%)	22.29%	46.61%	26.38%	19.69%	53.92%
South Pickett Hospital	AA	2,725	0.98	(2.66%)	6.85%	(42.9%)	34.82%	86.19%	14.13%	38.48%	47.39%
West Merrill Hospital	AA	4,158	1.10	4.48%	10.22%	(23.64%)	27.38%	64.33%	23.16%	10.45%	66.39%
West Pickett Hospital	AA	2,754	0.98	(6.31%)	11.58%	(13.42%)	22.04%	65.25%	23.29%	37.26%	39.45%

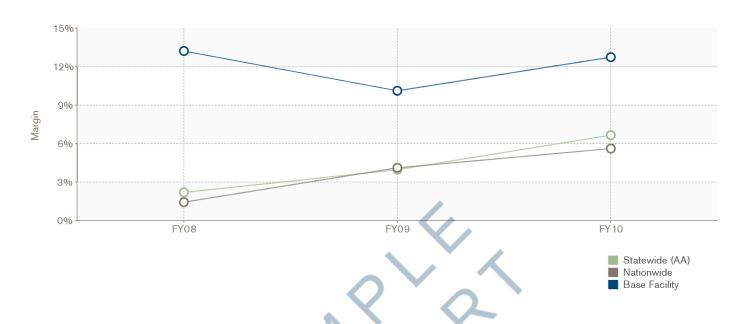
<sup>(1)</sup> RVU-Weighted LOS Relativity reflects the hospital specific RVU-Weighted LOS relative to the nationwide average. Refer to Appendix A for additional details.
(2) Medicare operating margin including DSH/IME is presented in order to provide a basis that is more comparable to All Payer margin.

These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

<sup>(3)</sup> Medicare operating margin excluding DSH/IME is presented in order to provide a basis that is more comparable between hospitals.

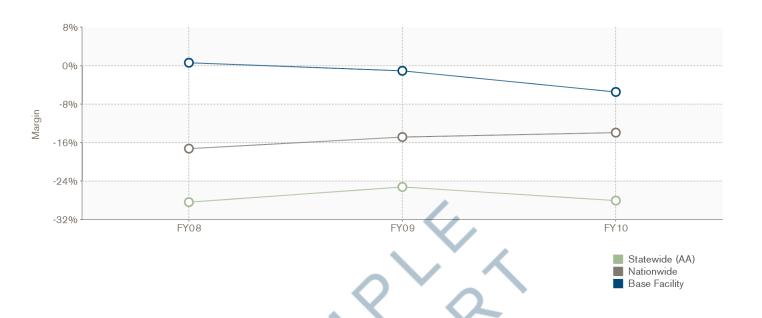
<sup>(4)</sup> Based on inpatient discharge data reported in the CMS cost reports.

#### EXHIBIT 2A: HOSPITAL MARGINS ALL PAYER (BASE FACILITY: NORTH GUNTHER HOSPITAL)



These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

#### EXHIBIT 2B: HOSPITAL MARGINS MEDICARE (BASE FACILITY: NORTH GUNTHER HOSPITAL)



Medicare operating margin is presented excluding DSH/IME in order to present a basis that is more comparable between hospitals.

These results rely on information reported in publically available Medicare fee-for-service claims data and Medicare Cost Reports supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

# **SECTION 3: HOSPITAL BILLED CHARGES**

Case-mix and severity-adjusted billed charge relativities are created by applying Millimans RBRVS for Hospitals RVUs to Medicare inpatient and outpatient claims data for every hospital, and dividing total billed charges by total RVUs. Given that chargemasters (schedule of billed charges for services provided by the hospital) are the same for all lines of business, we can use Medicare data to benchmark billed charges. For hospital reimbursement contracts that are based on a percentage of billed charges, it is imperative during the contract negotiation process to understand how a chargemaster stands up to a peer group. This summary will immediately place you in a strategic, data-driven, negotiating position and can help inform you of the appropriateness of your contracting levels.

The hospitals presented in Table 3, page 17, are the base hospital and the selected peer hospitals, and include statewide and nationwide averages. Admits are summarized for each hospital in order to provide perspective on the relative size of the hospital. The nationwide billed charge relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of billed charges within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the billed charge relativities of a category (such as inpatient) for a particular hospital it is important to review the billed charge relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor.

Exhibit 3A, page 18, shows billed charge relativities for inpatient services; Exhibit 3B, page 19, shows the same for outpatient services. The bars in each of the graphs represent the volume of billed charges, with the scale presented on the right side of the graph. The billed charge relativities for the base hospital, peer hospitals, statewide average, and nationwide average are represented by colored dots with the scale presented on the left side of the graph.

## **Calculation: Billed Charge Relativity**

### Billed Charge Relativity = $B \div A$ , where

A = (National Total Hospital Billed Charges) ÷ (National Total Hospital RVUs) and

B = (Hospital Specific Billed Charges) ÷ (Hospital Specific RVUs)

#### TABLE 3: HOSPITAL BILLED CHARGES (CASE-MIX AND SEVERITY-ADJUSTED)

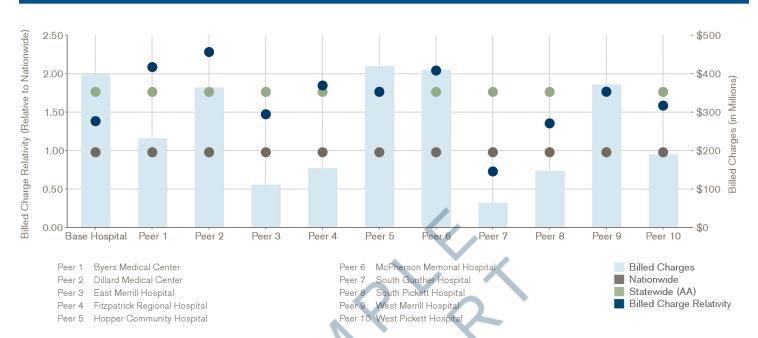
				BILLED CHARGE RELATIVITY									
						OUTPATIENT (CY 2010)							
	STATE	DISCHARGES (FY 2010)	LOS RELATIVITY(1)	INPATIENT (FY 2010)	ER	SURG	RAD	LAB	OTHER	OP TOTAL	HOSPITAL TOTAL		
Nationwide Average		3,283	1.00	0.98	1.07	0.88	1.52	2.13	0.86	1.06	1.00		
Statewide Average	AA	2,663	1.00	1.76	1.92	1.37	2.20	3.41	1.21	1.63	1.73		
North Gunther Hospital	AA	6,680	1.01	1.38	1.76	1.18	2.04	2.15	1.31	1.47	1.40		
Byers Medical Center	AA	3,116	1.01	2.09	3.07	1.40	3.13	4.12	2.05	2.42	2.13		
Dillard Medical Center	AA	4,194	0.86	2.28	1.94	1.86	3.48	5.36	2.66	2.57	2.35		
East Merrill Hospital	AA	2,136	0.95	1.47	1.62	0.98	2.35	2.31	1.36	1.40	1.45		
Fitzpatrick Regional Hospital	AA	2,174	1.08	1.85	1.39	1.45	3.27	4.52	1.84	2.12	1.90		
Hopper Community Hospital	AA	5,868	0.99	1.76	1.01	1.16	2.46	4.34	1.47	1.69	1.75		
McPherson Memorial Hospital	AA	5,404	0.97	2.04	1.42	1.23	3.31	4.25	1.50	1.92	2.02		
South Gunther Hospital	AA	2,306	1.02	0.73	0.58	0.65	1.57	2.54	0.80	0.96	0.78		
South Pickett Hospital	AA	2,725	0.98	1.35	2.55	1.10	2.21	4.58	1.45	1.81	1.44		
West Merrill Hospital	AA	4,158	1.10	1.77	1.96	1.76	3.17	4.96	2.15	2.24	1.83		
West Pickett Hospital	AA	2,754	0.98	1.58	1.64	1.13	2.22	4.04	1.38	1.56	1.58		

<sup>(1)</sup> RVU-Weighted LOS Relativity reflects the hospital specific RVU-Weighted LOS relative to the nationwide average. The RVU-Weighted LOS Relativity measure is detailed in Appendix A.

Note: Billed Charge Relativities are calculated relative to the nationwide hospital average (not geographically adjusted).

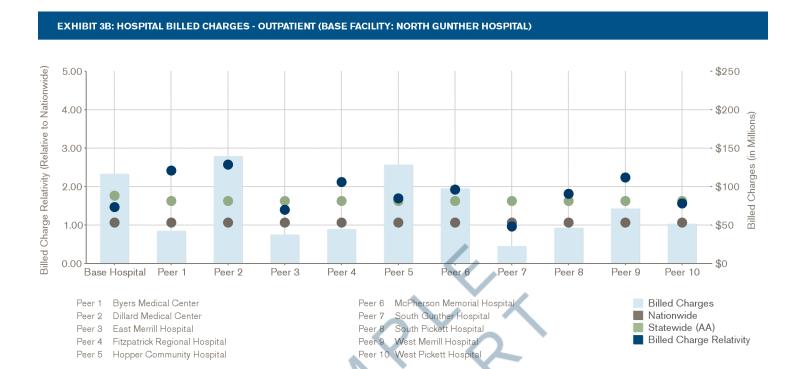
These results rely on information reported in publically available Medicare fee-for-service claims data supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The nationwide billed charge relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of billed charges within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the billed charge relativities of a category (such as inpatient) for a particular hospital it is important to review the billed charge relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.





Results are based on case-mix and severity-adjusted 2010 Medicare claims data and Medicare cost reports. The statewide and nationwide averages include data from the base hospital.

These results rely on information reported in publically available Medicare fee-for-service claims data supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The nationwide billed charge relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of billed charges within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the billed charge relativities of a category (such as inpatient) for a particular hospital it is important to review the billed charge relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.



Results are based on case-mix and severity-adjusted 2010 Medicare claims data and Medicare cost reports. The statewide and nationwide averages include data from the base hospital.

These results rely on information reported in publically available Medicare fee-for-service claims data supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The nationwide billed charge relativity is calibrated at the total hospital level and may vary for inpatient, outpatient, and the reported outpatient departments allowing for an assessment of billed charges within a hospital on a case-mix and patient severity level adjusted basis. When benchmarking the billed charge relativities of a category (such as inpatient) for a particular hospital it is important to review the billed charge relativities for the nationwide, statewide, and peer hospitals in that same category rather than just the pure reported factor. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

# **SECTION 4: RVU-WEIGHTED LOS RELATIVITIES**

To supplement the operating cost relativity comparisons among hospitals, we provide average RVU-weighted length-of-stay (LOS) relativities to demonstrate the relative LOS performance among hospitals and regions, given the case-mix and patient severity levels reported in the data. Understanding your current position helps to identify potential areas for improving efficiency and profitability. The adjusted average LOS is presented along with the well–managed and loosely managed benchmarks (see the Benchmark LOS section for a description of well– and loosely managed benchmarks) for each hospital. Since the resources necessary to care for patients can vary significantly by DRG and severity, we use the RVUs to provide a resource-weighted LOS comparison. The RVU-weighted LOS relativities are not adjusted to consider the relative ability of each hospital to avoid unnecessary admits or capture all necessary admits. To the extent a hospital is reporting a disproportionate share of unnecessary admits relative to other hospitals or, conversely, failing to admit necessary cases; the resulting RVU-weighted LOS relativity may be biased.

## **Discharges and Actual LOS**

Discharges are summarized for each hospital in order to provide perspective on the relative size and volume of hospital. The Actual LOS is the average number of days each patient, per unique discharge, stays in a particular hospital. It is calculated by dividing the sum of days for patients by the total discharges.

The results from this section of the report, detailed below, are presented in Table 4, page 23. A graphical representation of the benchmark LOS and RVUs per Discharge are presented in Exhibit 4A, page 24, and Exhibit 4B, page 25, respectively.

### **Benchmark LOS**

The benchmark average LOS is case-mix and severity-adjusted. MedPAR LOS is the average LOS based on all MedPAR claims, given the APR-DRG (All Patient Refined Diagnosis Related Group) and severity level distribution for the given provider. (For more detail on MedPAR, please refer to the Methodology section). In other words, every hospital discharge has a specific APR-DRG and severity level. By collecting all of the MedPAR hospital data, a national average LOS is calculated for each APR-DRG and severity level. Depending on how many discharges with each APR-DRG and severity level a certain hospital experiences, a benchmark LOS is calculated. This methodology creates a set of customized benchmarks based on the underlying mix of services provided.

Three benchmarks are provided: the MedPAR Average LOS, loosely managed and well–managed. The loose and the well–managed LOS are based on benchmarks from Milliman Health Cost Guidelines research, given the APR-DRG and the severity level distribution for each provider.

The loosely managed targets represent a healthcare system with limited use of evidence-based best practices, minimal incentives to manage costs and utilization, a limited use of low-cost alternatives, potentially excessive use of high-tech services and an environment that does little to promote change.

The well–managed targets represent managed care benchmark expectations under comprehensive utilization management programs. The well–managed targets were derived primarily from best practice hospital performance and actuarial and clinical judgment. While there is no precise definition of a well–managed delivery system, many efficient health organizations share certain characteristics including, but not limited to, the following:

- Active use of treatment guidelines, such as the Milliman Care Guidelines
- Programs to educate physicians on ways to provide care more efficiently
- Financial incentives that reward providers for efficient utilization
- On-site utilization management of inpatient services

The loosely managed and well–managed benchmarks represent estimates of points on the spectrum of possible outcomes, but not necessarily endpoints on that spectrum. For various reasons both random and non-random hospitals may experience levels that land outside the loosely managed and well–managed benchmark range. Furthermore, the benchmarks presented in this data represent the average of the underlying data. For example, if a hospital has a mix of inpatient discharges, some less than the well–managed level and some higher than the well–managed level with the overall average being less than the average well–managed level, the results reported for that hospital would be below the well–managed level

## **Actual and Benchmark RVU**

The first day RVUs and additional day RVUs are determined by APR-DRG and severity level to adjust for case-mix and severity differences between providers. The MedPAR, loose, and well–managed RVUs are calculated similarly with their respective LOS. For more detail on RVUs, please refer to the Methodology page.

### Calculation: Actual RVUs

Actual RVUs = First day RVUs +  $[(LOS - 1) \times (additional day RVUs)].$ 

# **RVU-Weighted LOS Relativities**

RVU-Weighted LOS relativities are calculated by dividing the Actual RVUs per discharge (RVUs on a day basis) by the benchmark MedPAR RVUs per discharge (RVUs on a case basis). This represents the relative LOS performance of a particular hospital compared to the nationwide benchmark. A number less than one means the hospital is more efficient than the national average. A number greater than one means the hospital is less efficient than the national average.

## **Case-Mix Index**

The Case-Mix Index is calculated as the Milliman RBRVS for Hospitals assigned average RVUs per discharge, divided by the nationwide average. This ratio represents the relative resources required to perform care (Actual RVU) for each hospital relative to the nationwide average.



TABLE 4: RVU-WEIGHTED LENGTH-OF-STAY RELATIVITIES (	CASE-MIX AND SEVERITY-ADJUSTED)
---	---------------------------------

				BEN	ICHMARK LC	<b>S</b> (2)	BEN		BENCHMARK RVU(4)			
	STATE	DISCHARGES (FY 2010)	ACTUAL LOS(1)	LOOSE	MEDPAR	WELL	ACTUAL RVU(3)	LOOSE	MEDPAR	WELL	LOS RELATIVITY (5)	CASE MIX INDEX(6)
Nationwide Average		3,283	5.44	6.12	5.44	4.52	257	278	257	228	1.00	1.00
Statewide Average	AA	2,663	5.53	6.31	5.58	4.65	263	287	264	234	1.00	1.03
North Gunther Hospital	AA	6,680	5.40	5.92	5.31	4.46	272	290	270	241	1.01	1.05
Byers Medical Center	AA	3,116	5.03	5.59	4.93	4.23	225	244	222	198	1.01	0.86
Dillard Medical Center	AA	4,194	4.65	6.44	5.72	4.87	241	302	278	248	0.86	1.08
East Merrill Hospital	AA	2,136	4.59	5.57	4.96	4.27	222	253	233	209	0.95	0.91
Fitzpatrick Regional Hospital	AA	2,174	8.07	7.94	7.14	5.06	242	245	224	180	1.08	0.87
Hopper Community Hospital	AA	5,868	4.91	5.66	5.07	4.34	256	278	259	232	0.99	1.01
McPherson Memorial Hospital	AA	5,404	4.69	5.52	4.94	4.22	235	262	243	218	0.97	0.95
South Gunther Hospital	AA	2,306	5.35	5.97	5.24	4.53	238	259	235	210	1.02	0.91
South Pickett Hospital	AA	2,725	5.98	7.29	6.16	5.05	251	287	257	225	0.98	1.00
West Merrill Hospital	AA	4,158	6.53	6.45	5.75	4.94	320	316	292	262	1.10	1.14
West Pickett Hospital	AA	2,754	7.02	7.89	7.01	5.56	275	307	280	238	0.98	1.09

<sup>(1)</sup> The actual length of stay (LOS) is based on the actual days and discharges reported in the 2010 MedPAR data.

These results rely on information reported in publically available Medicare fee-for-service claims data supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The loosely managed and well-managed benchmarks represent estimates of points on the spectrum of possible outcomes, but not necessarily endpoints on that spectrum. For various reasons - both random and non-random - hospitals may experience levels that land outside the loosely managed and well-managed benchmark range. Furthermore, the benchmarks presented in this data represent the average of the underlying data. For example, if a hospital has a mix of inpatient discharges - some less than the well-managed level and some higher than the well-managed level - with the overall average being less that the average well-managed level, the results reported for that hospital would be below the well-managed level. The RVU-weighted LOS relativities are not adjusted to consider the relative ability of each hospital to avoid unnecessary admits or capture all necessary admits. To the extent a hospital is reporting a disproportionate share of unnecessary admits relative to other hospitals - or, conversely, failing to admit necessary cases - the resulting RVU-weighted LOS relativity may be biased. The state and national level results are calculated in an identical manner and reflect the average of all underlying data. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

<sup>(2)</sup> Benchmark LOS is based on hospital specific APR-DRG and severity level claims data assuming loosely managed, nationwide MedPAR, and well–managed LOS by APR-DRG and severity level.

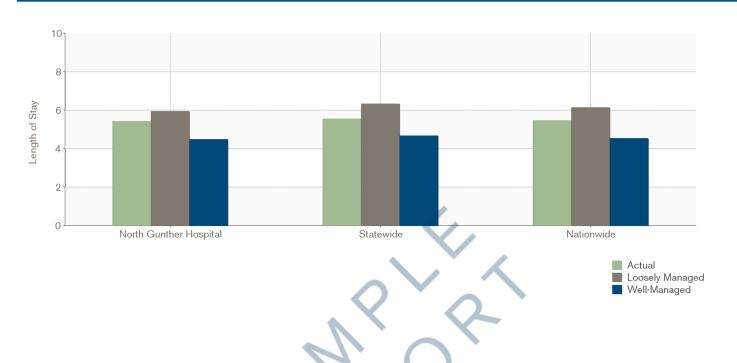
(3)
The actual relative value unit (RVU) is based on the actual RVUs assigned to discharges reported in the 2010 MedPAR data.

<sup>(4)</sup> Benchmark RVU is based on hospital specific APR-DRG and severity level claims data assuming loosely managed, nationwide MedPAR, and well-managed RVU by APR-DRG and severity level.

<sup>(5)</sup> RVU-Weighted LOS Relativity reflects the hospital specific RVU-Weighted LOS relative to the nationwide average. The RVU-Weighted LOS Relativity measure is detailed in Appendix A.

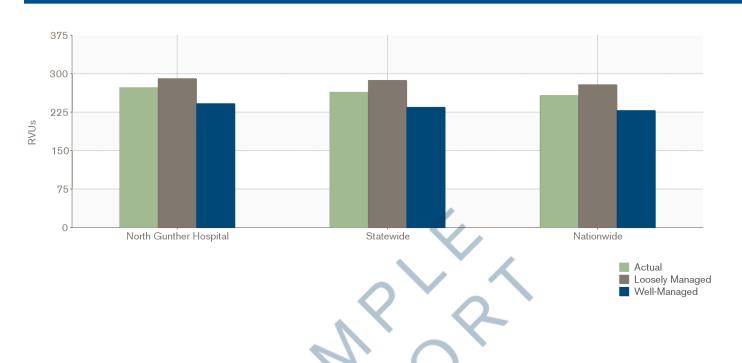
<sup>(6)</sup> Case-Mix Index represents the relative resources required to perform care (MedPAR Benchmark RVU) for each hospital relative to the nationwide average.

#### EXHIBIT 4A: LENGTH OF STAY: ACTUAL, LOOSELY MANAGED, WELL-MANAGED



These results rely on information reported in publically available Medicare fee-for-service claims data supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The loosely managed and well—managed benchmarks represent estimates of points on the spectrum of possible outcomes, but not necessarily endpoints on that spectrum. For various reasons — both random and non-random — hospitals may experience levels that land outside the loosely managed and well—managed benchmark range. Furthermore, the benchmarks presented in this data represent the average of the underlying data. For example, if a hospital has a mix of inpatient discharges — some less than the well managed level and some higher than the well—managed level — with the overall average being less that the average well managed level, the results reported for that hospital would be below the well—managed level. The RVU-weighted LOS relativities are not adjusted to consider the relative ability of each hospital to avoid unnecessary admits or capture all necessary admits. To the extent a hospital is reporting a disproportionate share of unnecessary admits relative to other hospitals — or, conversely, failing to admit necessary cases — the resulting RVU-weighted LOS relativity may be biased. The state and national level results are calculated in an identical manner and reflect the average of all underlying data. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

#### EXHIBIT 4B: RVUs PER DISCHARGE: ACTUAL, LOOSELY MANAGED, WELL-MANAGED



These results rely on information reported in publically available Medicare fee-for-service claims data supplemented by proprietary Milliman research. Data for hospitals with the attributes and limitations listed in the Methodology section of the report has been excluded. The loosely managed and well—managed benchmarks represent estimates of points on the spectrum of possible outcomes, but not necessarily endpoints on that spectrum. For various reasons — both random and non-random — hospitals may experience levels that land outside the loosely managed and well—managed benchmark range. Furthermore, the benchmarks presented in this data represent the average of the underlying data. For example, if a hospital has a mix of inpatient discharges — some less than the well—managed level and some higher than the well—managed level — with the overall average being less that the average well—managed level, the results reported for that hospital would be below the well—managed level. The RVU-weighted LOS relativities are not adjusted to consider the relative ability of each hospital to avoid unnecessary admits or capture all necessary admits. To the extent a hospital is reporting a disproportionate share of unnecessary admits relative to other hospitals — or, conversely, failing to admit necessary cases — the resulting RVU-weighted LOS relativity may be biased. The state and national level results are calculated in an identical manner and reflect the average of all underlying data. The information presented in this exhibit is subject to the terms and conditions accepted in the license agreement as well as the caveats and limitations outlined in this report.

# **SECTION 5: METHODOLOGY**

Overview: The results presented in the report are based on objective, data-driven calculations.

We compiled and relied on data reported in the MedPAR dataset, the OPPS data file, and Medicare cost reports. These datasets are used universally in the healthcare industry, and we believe these are the best available resources for this analysis.

After the data has been compiled, the following hospital data is removed from the analysis:

- Data for hospitals not located in the United States (for example, locations such as Canada, Puerto Rico, Guam, and the U.S. Virgin Islands are excluded).
- Non-FFS claims data.
- Inpatient data for hospitals with fewer than 200 Medicare inpatient discharges during the experience year
- Outpatient data for hospitals with fewer than 200 Medicare outpatient cases during the experience year
- Hospitals with negative revenue or negative expenses in the Medicare cost reports
- Hospitals with insufficient data to calculate inpatient or outpatient operating costs
- Data for non-short term acute care hospitals
- Data for inpatient maternity claims

### **Broad Overview of Data Sources**

#### **MedPAR**

The MedPAR file reports data from claims for services rendered to beneficiaries admitted to Medicare certified inpatient hospitals and skilled nursing facilities (SNFs) discharged during Fiscal Year 2010 (October 1, 2009, to September 30, 2010), updated through March 31, 2011. Beneficiary demographic characteristics, diagnosis and surgery information are included on the MedPAR records. The data records contain detailed accommodation and departmental charge data, days of care, and entitlement data.

### **OPPS**

The OPPS data file reports claim-level data and is derived from calendar-year 2010 hospital outpatient perspective payment system claims, updated through December 31, 2010. This includes claims for services incurred during calendar-year 2010 that were received, processed, paid, and passed to the National Claims History file by March 31, 2011.

### **Medicare Cost Report**

Medicare-certified institutional providers are required to submit an annual cost report, containing hospital characteristics, utilization data, cost and charges by cost center (in total and for Medicare), Medicare cost settlement data, and financial statement data. The Centers for Medicare and Medicaid Services (CMS) maintain the cost report data. The Medicare Cost Report is provided to CMS, by hospitals, on a yearly basis. The cost report data used in this report covers Fiscal Year 2010.

Table 1 reports the operating costs for each hospital using MedPAR data, OPPS data, and Medicare cost reports. These costs are estimated using a cost-to-charge ratio from Medicare cost reports and multiplying it by the reported billed charges from the MedPAR and OPPS data. Every hospital has their own cost-to-charge ratio, which is multiplied by their billed charges from the claims data, resulting in the estimated operating costs. These ratios will vary within facilities but we believe the average cost-to-charge ratio is reasonably representative for the purpose of comparison at the facility level.

#### Milliman RBRVS for Hospitals

The Milliman RBRVS for Hospitals fee schedule provides a solution for comparing hospital contractual allowed amounts, billed chargemaster levels, efficiency, and patient mix differences. The fee schedule is based on relative value units (RVUs). The RVUs are the same for procedures that require the same relative resources.

RVUs were first developed in 1994 and are updated and reviewed annually, in accordance with Milliman's strict internal peer-review standards. In addition, the RVUs are receiving continuous outside review as they are used by a wide variety of clients.

A complete audit of the RVUs and hospital rankings was performed by the California Bureau of State Audits in August 2005. The audit was comprehensive, covering all aspects of the hospital ranking process. The audit included an on-site review of the RVU development and documentation by an independent actuary hired by the state.

Please refer to Appendix A for additional documentation regarding Milliman RBRVS for Hospitals.

#### **Hospital Operating Costs**

- 1. **Data sources:** MedPAR, OPPS, and Medicare cost reports.
- 2. **Proprietary data resources:** Milliman RBRVS for Hospitals.
- 3. **Adjustments:** The operating costs are adjusted using the Medicare reimbursement geographic factors. These factors are developed by CMS. Lab adjustments are created using the clinical lab-fee schedule from the CMS website. Case-mix and severity-adjusted RVUs are also used.

4. **Calculations and formulas:** Operating costs are calculated based on billed charges and cost to charge ratios. Hospital-specific operating cost conversion factors are calculated by dividing the operating costs (calculation explained above) by the case-mix and severity-adjusted RVUs from the Milliman RBRVS for Hospitals. The operating cost relativities are calculated by dividing each hospitals operating cost conversion factor by the nationwide total hospital operating cost conversion factor, providing a relativity to the nationwide total hospital operating cost conversion factor. Each hospital is geographically adjusted using Medicare wage index and capital adjustment factors so that hospitals can be directly compared across the country.

### **Hospital Margins**

1. Data sources: Medicare Cost Reports.

Proprietary data resources: None.

3. Adjustments: None.

4. **Calculations and formulas:** Income is calculated by subtracting total expenses from total revenues (DSH/IME payments are also removed in the calculation of the Medicare Margins). Margins are calculated by dividing income by revenues. DSH/IME percentages are expressed as a percentage of Medicare revenue. Occupancy rates are expressed as the percentage of available bed days that were occupied. Patient mix by payer is expressed as the percentage of discharges attributed to each payer (Medicare, Medicaid and all others).

## **Hospital Billed Charges**

1. Data sources: MedPAR and OPPS.

2. **Proprietary data resources:** Milliman RBRVS for Hospitals.

3. Adjustments: Case-mix and severity-adjusted RVUs.

4. **Calculations and formulas:** Hospital-specific billed charge conversion factors are calculated by dividing the billed charges reported in the MedPAR and OPPS data by the case-mix and severity-adjusted RVUs from the Milliman RBRVS for Hospitals. The billed charge relativities are calculated by dividing each hospitals billed charge conversion factor by the nationwide total hospital billed charge conversion factor, providing a relativity to the nationwide total hospital billed charge conversion factor. No geographic adjustment is applied.

### **RVU-Weighted LOS Relativities**

- 1. Data sources: MedPAR.
- 2. **Proprietary data resources:** Milliman RBRVS for Hospitals, Health Cost Guidelines DRG research.
- 3. **Adjustments:** APR-DRGs and severity indicators are used to look up benchmarks, meaning the data is both case-mix and severity-adjusted.
- 4. **Calculations and formulas:** Actual LOS is calculated based on the number of days represented by each discharge in the MedPAR data. Relative value units (RVUs) are assigned to the detailed data by using the Milliman RBRVS for Hospitals. All LOS and RVUs per discharge are calculated by dividing the total LOS or RVUs by the total discharges for the respective hospital. RVU-Weighted LOS Relativity is calculated by dividing actual hospital specific RVUs by the benchmark MedPAR RVUs and comparing that value relative to the nationwide average.



# **APPENDIX A**

Millimans RBRVS for Hospitals<sup>™</sup> is a comprehensive inpatient and outpatient hospital fee schedule that divides the contractually allowed dollars on a hospital contract by the RVUs of production in order to estimate the patient severity-adjusted cost per unit of care. This allows for a comparison of hospital contractual allowed amounts, billed charge master levels, efficiency, and patient mix differences.

Find details in the Milliman RBRVS for Hospitals white paper at http://www.milliman.com/expertise/healthcare/products-tools/rbrvs/pdfs/milliman-rbrvs-for-hospitals.pdf.

More information about Milliman's RBRVS for Hospitals, Hospital Evaluation & Comparison System, and related products is available at http://www.milliman.com/rbrvs/.



## LICENSING AGREEMENT

#### **Preamble**

IMPORTANT! THIS IS THE LICENSE AGREEMENT THAT YOU ARE REQUIRED TO ACCEPT BEFORE PURCHASING AND USING THE MILLIMAN HOSPITAL OPERATING COST AND PERFORMANCE BENCHMARKS REPORT. CAREFULLY READ ALL THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT. YOU ARE NOT PERMITTED TO USE OR OBTAIN ANY RESULTS FROM THE REPORT UNTIL YOU HAVE AGREED TO BE BOUND BY ALL OF THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT. IF YOU DO NOT AGREE WITH ALL OF THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT YOU MAY NOT PROCEED WITH USING OR OBTAINING ANY RESULTS FROM THE REPORT.

Thank you for selecting the **Milliman Hospital Operating Cost and Performance Benchmarks Report** (Report). This license agreement (the Agreement) is a contract between your entity and Milliman, Inc. (Milliman) that describes the terms and conditions that apply to your use of the Report below. Before using this Report you must read and accept the terms and conditions contained in the Agreement. If you do not agree to the terms of the Agreement you will not be able to use the Report.

**1. License Grant.** During the Term (defined below), Milliman grants your entity a limited, non-exclusive, and non-transferable license to use the Report after properly registering and paying the applicable purchase fee solely for assistance in benchmarking and reviewing relative cost and other hospital performance metrics.

The terms User, you, or your are synonymous and refer to both you as an individual and the entity which you are the authorized representative of when and upon any use of the Report. Once a user has registered with and paid Milliman for the Report, the user is able to access the Report and print and electronically store the Report and must comply with the Terms of Report and this License Agreement.

Any User of the Report must possess a certain level of expertise in areas relevant to the analysis to appreciate the significance of the assumptions and the impact of these assumptions on the illustrated results. Users should be advised by their own actuaries or other qualified professionals competent in the subject matter of the Report, so as to properly interpret the material.

Except as expressly stated above, you are not licensed or permitted to do any of the following:

- (i) attempt to access any other Milliman systems, websites, or programs or data that are not made available for public use: or
- (ii) copy, reproduce, republish, upload, post, transmit, resell or distribute in any way the material from the Report.

You agree that Milliman is not acting as your professional, accounting or legal advisor, agent or fiduciary in connection with your use of the Report. You represent that you will not rely on Milliman with respect to any matter of interpretation of law, regulation or legal or accounting compliance. Any information provided to you by Milliman with respect to provisions of law or regulation is for informational use only and should not be relied upon without consultation with your own attorney and/or accounting professional.

You must indemnify and defend Milliman against any claims or lawsuits, including attorneys' fees and all loss, liability and expenses, that arise from or result from the use of the Report on a professional or commercial basis or for other purposes not permitted by this Agreement.

- 2. Use of Report. ANY USE OF THE REPORT OR THE DATA EXPORTED BY THE REPORT IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND USED AT YOUR OWN RISK. MILLIMAN MAKES NO WARRANTY WITH RESPECT TO THE USER INPUTS AND THE RESULTS DERIVED FROM SUCH USER INPUTS. THE INFORMATION SHOULD BE CHECKED AND INDEPENDENTLY VARIFIED BY THE USER. User is responsible for keeping Milliman apprised promptly of any change in your email address, mailing address and/or phone number so that you can be notified of such updates or corrections.
- 3. Reservation of Rights and Ownership. Milliman reserves all rights not expressly granted to you in this Agreement. The Report is protected by copyright, trade secret and other intellectual property laws. Milliman owns the title, copyright, and other intellectual property rights in the Report. The Report is licensed, not sold. This License does not grant you any rights to trademarks or Report marks of Milliman. You shall not decompile, disassemble, or otherwise reverse engineer the Report except as otherwise permitted by applicable law notwithstanding this prohibition.
- 4. DISCLAIMER OF WARRANTIES. THE REPORT IS PROVIDED "AS-IS" AND, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, MILLIMAN DISCLAIMS ALL GUARANTEES AND WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, REGARDING THE REPORT, INCLUDING ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, TITLE, MERCHANTABILITY, AND NON-INFRINGEMENT. MILLIMAN DOES NOT WARRANT THAT THE REPORT IS SECURE, FREE FROM BUGS, VIRUSES, INTERRUPTION, ERRORS, OR OTHER REPORT OR WEBSITE LIMITATIONS. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSIONS MAY NOT APPLY TO YOU. IN THAT EVENT, ANY IMPLIED WARRANTIES ARE LIMITED IN DURATION TO 60 DAYS FROM THE DATE OF PURCHASE OF THE REPORT, AS APPLICABLE. HOWEVER, SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.
- **5. LIMITATION OF LIABILITY AND DAMAGES.** THE ENTIRE CUMULATIVE LIABILITY OF MILLIMAN FOR ANY REASON SHALL BE LIMITED TO THE AMOUNT PAID BY YOU FOR THE REPORT TO MILLIMAN. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, MILLIMAN IS NOT LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR FOR ANY DAMAGES RELATING TO LOSS OF BUSINESS, TELECOMMUNICATION FAILURES, LOSS,

CORRUPTION, SECURITY OR THEFT OF DATA, VIRUSES, SPYWARE, LOSS OF PROFITS OR INVESTMENT, TAX POSITIONS TAKEN BY YOU, OR THE LIKE, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, PRODUCT LIABILITY OR OTHERWISE, EVEN IF MILLIMAN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND EVEN IF A REMEDY SET FORTH HEREIN IS FOUND TO HAVE FAILED OF ITS ESSENTIAL PURPOSE. IN NO EVENT DOES MILLIMAN ASSUME ANY LIABILITY TO ANY PARTY OTHER THAN YOU ARISING OUT OF YOUR USE OR INABILITY TO USE THE REPORT. THE LIMITATIONS OF DAMAGES SET FORTH ABOVE ARE FUNDAMENTAL ELEMENTS OF THE BASIS OF THE AGREEMENT BETWEEN MILLIMAN AND YOU. MILLIMAN WOULD NOT BE ABLE TO HAVE PROVIDED THE REPORT WITHOUT SUCH LIMITATIONS.

6. Limitation on Time to Sue; Disputes. Unless otherwise required by law, an action or proceeding by you to enforce an obligation, duty, or right arising under this Agreement or by law with respect to the Report must be commenced within one year after the cause of action accrues. You agree to submit any dispute arising from or related to this Agreement, including but not limited to, disputes relating to the Report, and the interpretation and enforceability of this Agreement, to binding arbitration. The arbitration, conducted pursuant to the Commercial Arbitration Rules of the American Arbitration Association, will be conducted before three neutral and independent arbitrators, one selected by Milliman, one by you and the third by the first two. The award may be confirmed in any court of competent jurisdiction. Unless otherwise required by law, an action or proceeding by you to enforce an obligation, duty, or right arising under this Agreement or by law with respect to the Report must be commenced within one year after the cause of action accrues.

### 7. Consent to Conduct Business Electronically ("Consent").

- (a) Consenting to Do Business Electronically. The decision whether to do business electronically is yours, and you should consider whether you have the required hardware and software capabilities described below. Your consent to do business electronically, and our agreement to do so, applies to this Agreement, and the Report.
- (b) Communication Requirements. In order to access and retain an electronic record of Communications, you will need: a computer, a monitor, a connection to an Internet Report provider, an Internet browser software that supports 128-bit encryption, and an e-mail address. By accepting this Agreement, you are confirming to us that you have each of these and the means to access, and to print or download, communications. We do not provide ISP services. You must have your own Internet Service provider.
- 8. Miscellaneous. This Agreement (and any additional terms and conditions with which Milliman supplements this agreement) is a complete statement of the agreement between you and Milliman, and sets forth the entire liability of Milliman and your exclusive remedy with respect to the Report and its use. Except as set forth in Section 9 below, the agents or employees of Milliman are not authorized to make modifications to this Agreement, or to make any additional representations, commitments, or warranties binding on Milliman. Milliman shall be not be liable for any default or delay in performance due to causes beyond its reasonable control. If any provision of this Agreement is invalid or unenforceable under applicable law, then it shall be, to that extent, deemed omitted and the remaining provisions will continue in full force and effect. This Agreement will be governed by the laws of the state of Washington, without regard to its choice of law or conflicts of law

principles that would require the application of law of a different jurisdiction, and applicable federal law. The United Nations Convention on Contracts for the International Sale of Goods does not apply to this Agreement. Headings are included for convenience only, and shall not be considered in interpreting this Agreement. This Agreement does not limit any rights that Milliman may have under trade secret, copyright, patent or other laws.

- 9. Termination and Amendment. Your rights under this Agreement and your subscription to the Report may be terminated by Milliman immediately and without notice if you fail to comply with any term or condition of this Agreement. Any termination of this Agreement shall not affect Millimans rights hereunder. Milliman shall have the right to change or add to the terms of its Agreement at any time (provided that it is not Millimans intent that such change substantially affect the license rights granted to you in Section 1 and for which consideration was paid by you), and to change, delete, discontinue, or impose conditions on any feature or aspect of the Report (including but not limited to internet based Reports, pricing, technical support options, and other product-related policies) upon Milliman posting information concerning any such change, addition, deletion, discontinuance or conditions on any Milliman sponsored web site, including but not limited to the web site listed above. Any use of the Report by you after Millimans publication of any such changes shall constitute your acceptance of this Agreement as modified. Milliman has no obligation to provide you with any information you provide to Milliman.
- **10. U.S. Government Restricted Rights.** The Website is a "commercial item", as that term is defined at 48 C.F.R. 2.101 (OCT 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (SEPT 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227-7202-1 through 227-7202-4 (JUNE 1995), all U.S. Government users acquire the Software with only those rights set forth herein.

**Company/Organization:** Milliman Inc. **Authorized Representative:** John Doe

E-mail: john.doe@milliman.com

Phone: (555) 5555555

If you have questions or would like more information regarding your report, please e-mail hospital.benchmarks@milliman.com or call us at 206.504.5676.