

# HOSPITAL COSTS IN RHODE ISLAND 2004

A STATE BY STATE COMPARISON



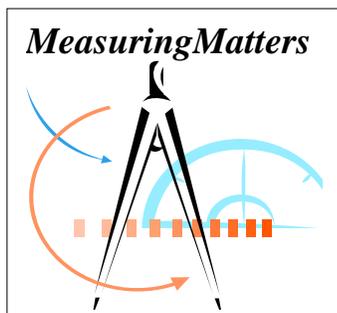
*MeasuringMatters*

RHODE ISLAND DEPARTMENT OF HEALTH



# *HOSPITAL COSTS in RHODE ISLAND (2004)*

*~a state by state comparison~*



*authored by:*

**Bruce Cryan, MBA, MS**

*Rhode Island Department of Health  
Center for Health Data & Analysis*

*(401) 222-5123*

*(401) 273-4350 fax*

*bruce.cryan@health.ri.gov*

Report is available on the web at [www.health.ri.gov](http://www.health.ri.gov)

**December, 2006**



# Table of Contents

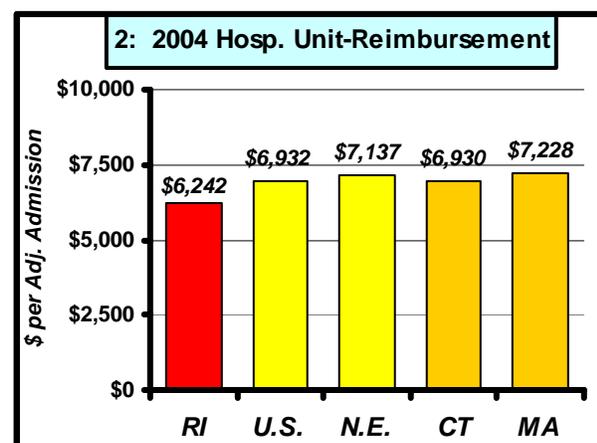
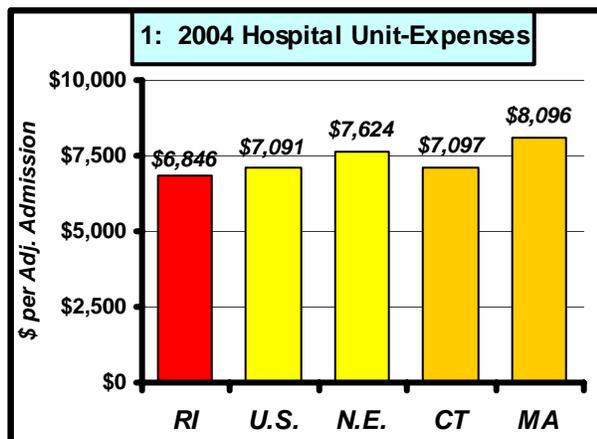
- I. Executive Summary ..... 1
  - Chart 1: 2004 Hospital Unit-Expenses ..... 1
  - Chart 2: 2004 Hospital Unit-Reimbursement..... 1
- II. Introduction ..... 2
- III. Per-Capita Expenses..... 3
  - Table 1: Per-Capita Expenses ..... 3
- IV. Hospital Expenses ..... 4
  - Table 2: Unit-Expenses ..... 4
- V. Hospital Utilization..... 5
  - Table 3: 2004 Hospital Utilization Rates ..... 6
- VI. Hospital Reimbursement..... 7
  - Table 4: Unit-Reimbursement..... 7
- VII. Hospital Costs Trends..... 8
  - Table 5: 2002-2004 Hospital Costs Changes..... 9
- Appendix: 2004 Data Inputs ..... 11



## I: EXECUTIVE SUMMARY

Thirty two cents of every healthcare dollar is spent on hospital services<sup>1</sup> so there is interest in monitoring and maximizing the value<sup>2</sup> of this investment. Hospital costs impact everyone and expensive hospital services are reflected in higher insurance premiums. This could cause employers on the margin to drop health benefits or price individuals out of the market altogether. On the other hand, less expensive hospital services could provide a competitive advantage for RI businesses (all else being equal).

This Report updates two prior publications, and presents the most current information on each state's hospital costs. It examines three separate cost measures (i.e., per-capita expenses, expenses per adjusted admission (Chart 1), and reimbursement per adjusted admission (Chart 2)). All comparisons control for the differences in each state's patient case-mix. Findings show:



### Regionally, in 2004:

- RI hospitals were the 3<sup>rd</sup> **least** expensive in New England, and
- they received the **lowest** reimbursement rates.

### Nationally, in 2004:

- RI had the 14<sup>th</sup> **highest** per-capita hospital expenses (\$1,478) in the U.S., and
- the 22<sup>nd</sup> **highest** expenses per unit-of-service (\$6,846).
- Contributing to the high per-capita expenses, was the 7<sup>th</sup> **highest** outpatient surgical rate in the country (83.1 per 1,000).
- On the revenue side, RI hospitals received the 41<sup>st</sup> **highest** (i.e., 10<sup>th</sup> lowest) reimbursement per unit-of-service (\$6,242).
- From 2002 to 2004, hospital reimbursement increased +13%, while hospital expenses increased +11.8%.

<sup>1</sup> 2003 data; US Census Bureau, ([www.census.gov/prod/2005pbs/06statab/health.pdf](http://www.census.gov/prod/2005pbs/06statab/health.pdf))

<sup>2</sup> 'Value' is a function of both cost and quality. This Report examines only hospital costs (see footnote<sup>3</sup> for information on hospital quality)

## II: INTRODUCTION

Determining that Rhode Islanders are receiving ‘value’ on their expenditures for hospital care requires that those services be consistently delivered less expensively with the same or better quality than elsewhere. This Report compares the most recent data on each state’s hospital costs, it does not examine the quality<sup>3</sup> nor the appropriateness<sup>4</sup> of hospital services.

Two national databases<sup>5</sup> are used to develop three different measures of hospital costs for evaluation. **Per-capita expenses** are the total hospital expenses in a state reported on a per person basis. **Unit-expenses** are the costs incurred by hospitals from providing one unit of healthcare service (i.e., an adjusted admission). **Unit-reimbursement** is the cost to the payors (commercial, governmental and private) for purchasing one unit of these services.

The ‘adjusted admission’<sup>6</sup> is a traditional unit-of-service measure for examining unit-costs because it accounts for all of the activity at a hospital, both inpatient and outpatient. Further, all of these cost measures are reported on a Medicare case-mix adjusted basis.<sup>7</sup> This allows for a more valid comparison of actual costs by controlling for differences in the complexity (and resource use) of each state’s patient mix.<sup>8</sup> Lastly, all of the statewide, regional, and national values are aggregates (i.e., totals), and not medians, means or other representative metrics.

<sup>3</sup> HEALTH’s Center for Health Data & Analysis reports on 3 select measures of hospital quality (i.e., heart attack care, heart failure care and pneumonia care, [www.health.ri.gov](http://www.health.ri.gov))

<sup>4</sup> Utilization review is the process by which healthcare services are evaluated for medical appropriateness (UR Agents are regulated by HEALTH’s Office of Managed Care Regulation)

<sup>5</sup> Hospital Statistics (2006 Ed.), American Hospital Association; Almanac of Hospital Financial and Operating Indicators (2006 Ed.), Ingenix

<sup>6</sup> Technically, the metric is the Adjusted Discharge, that is a unit-of-service measure used by healthcare consulting firms and policy makers to approximate all the inpatient and outpatient activity at a hospital. In this Report, admissions are used rather than discharges, because the national AHA database does not report discharges. The difference between admissions and discharges is that admissions equal discharges plus deaths. The actual calculation is: (admissions x (total gross patient revenue / gross inpatient revenue)).

<sup>7</sup> RI had the 11<sup>th</sup> highest Medicare case-mix index of all states in 2004

<sup>8</sup> (Statistic / Medicare case-mix index); “Although it is specifically relevant to Medicare patients, the Medicare case-mix index is a good approximation of the complexity (and cost) of the provider’s entire patient mix.” Financial and Clinical Benchmarking: The Strategic Use of Data, HCIA/Sachs and Healthcare Financial Management Association, 1997, p 64

### III: PER-CAPITA EXPENSES

1: PER-CAPITA EXPENSES <sup>1</sup>		
	Amount	Rank
North Dakota	\$2,021	1
Massachusetts	\$1,925	2
New York	\$1,838	3
West Virginia	\$1,694	4
Missouri	\$1,666	5
Maine	\$1,647	6
Minnesota	\$1,589	7
Iowa	\$1,572	8
Mississippi	\$1,548	9
South Dakota	\$1,528	10
Pennsylvania	\$1,522	11
Montana	\$1,516	12
Vermont	\$1,479	13
Rhode Island	\$1,478	14
Ohio	\$1,471	15
Alaska	\$1,441	16
Tennessee	\$1,434	17
Wisconsin	\$1,429	18
Kentucky	\$1,429	19
Delaware	\$1,413	20
Illinois	\$1,385	21
Michigan	\$1,381	22
Indiana	\$1,371	23
Louisiana	\$1,347	24
North Carolina	\$1,342	25
Nebraska	\$1,301	26
Arkansas	\$1,292	27
Connecticut	\$1,292	28
South Carolina	\$1,291	29
New Jersey	\$1,276	30
New Hampshire	\$1,273	31
Oklahoma	\$1,273	32
Alabama	\$1,263	33
Florida	\$1,206	34
Kansas	\$1,193	35
Wyoming	\$1,192	36
Maryland	\$1,178	37
Oregon	\$1,177	38
Virginia	\$1,154	39
Texas	\$1,124	40
Georgia	\$1,115	41
Hawaii	\$1,075	42
Washington	\$1,068	43
Utah	\$1,044	44
Colorado	\$1,032	45
California	\$1,031	46
New Mexico	\$986	47
Nevada	\$947	48
Idaho	\$897	49
Arizona	\$873	50
New England	\$1,638	
United States	\$1,324	

Table I ranks each state's 2004 per-capita hospital expenses. RI had the 14<sup>th</sup> **highest** per-capita expenses (\$1,478) in the country, +12% greater than the U.S. rate of \$1,324. RI's per-capita hospital expenses in 2002 were also relatively high, +9% greater than the U.S. rate, and ranked the 18<sup>th</sup> highest in the country.

Regionally, RI's per-capita expenses were – 10% below the New England rate (\$1,638), and it ranked the 3<sup>rd</sup> **lowest** state in N.E. (above Connecticut (\$1,292), and New Hampshire (\$1,273)).

Evaluating RI's relatively high per-capita expense at least on a national basis, necessarily involves an examination of both the unit-costs of hospital services and hospital utilization rates. A high per-capita expense may be more acceptable if based on greater, appropriate utilization than on higher unit-expenses. This appears to be the case in RI, as utilization of certain hospital services (i.e., inpatient & outpatient surgery) was higher than the national and regional rates (Table 3,) while hospital unit-expenses were lower than the national and regional rates (Table 2).

<sup>1</sup> 2004 data, Medicare case-mix adjusted hospital expenses per person

## IV: HOSPITAL EXPENSES

Table 2 ranks each state's 2004 hospital unit-expenses (i.e., the expenses hospitals incur per adjusted admission). Unlike per-capita expenses, which are a function of both the cost of producing services (i.e., unit-expenses) and the number of services provided (i.e., utilization), unit-expenses reflect only cost differences.

In 2004, RI hospitals incurred \$6,846 in expenses per adjusted admission. This amount ranked the 22<sup>nd</sup> **highest** in the country, but -3% **less** than the national rate (\$7,091).

RI's unit-expenses were also -10% **less** than the New England rate (\$7,624), ranking RI the 3<sup>rd</sup> **least** expensive state in the region.

Relatively low unit-expenses generally indicate greater hospital cost-efficiency and provide a hospital more flexibility in reimbursement negotiations with its payors. Consumers could benefit to the extent these lower prices are reflected in lower insurance premiums and/or lower charges for self-pay patients.

2: UNIT-EXPENSES <sup>1</sup>		
	Amount	Rank
Alaska	\$12,053	1
New York	\$9,315	2
Massachusetts	\$8,096	3
Minnesota	\$7,866	4
California	\$7,712	5
Maine	\$7,567	6
New Jersey	\$7,409	7
Montana	\$7,310	8
Wisconsin	\$7,286	9
Hawaii	\$7,269	10
Delaware	\$7,262	11
Washington	\$7,226	12
Oregon	\$7,193	13
Connecticut	\$7,097	14
North Dakota	\$7,062	15
South Dakota	\$7,038	16
Utah	\$6,964	17
Virginia	\$6,911	18
Illinois	\$6,897	19
Missouri	\$6,881	20
Iowa	\$6,879	21
<b>Rhode Island</b>	<b>\$6,846</b>	<b>22</b>
Colorado	\$6,809	23
Wyoming	\$6,784	24
South Carolina	\$6,765	25
North Carolina	\$6,741	26
Nevada	\$6,738	27
Pennsylvania	\$6,629	28
Texas	\$6,613	29
Mississippi	\$6,609	30
New Mexico	\$6,590	31
Nebraska	\$6,586	32
Indiana	\$6,577	33
Michigan	\$6,565	34
Maryland	\$6,563	35
New Hampshire	\$6,499	36
Oklahoma	\$6,473	37
Ohio	\$6,459	38
Georgia	\$6,362	39
Tennessee	\$6,312	40
Vermont	\$6,233	41
Florida	\$6,088	42
Kansas	\$5,933	43
West Virginia	\$5,874	44
Arkansas	\$5,835	45
Kentucky	\$5,749	46
Arizona	\$5,639	47
Idaho	\$5,621	48
Louisiana	\$5,606	49
Alabama	\$5,267	50
<b>New England</b>	<b>\$7,624</b>	
<b>United States</b>	<b>\$7,091</b>	

<sup>1</sup> 2004 data, Medicare case-mix adjusted hospital expenses per adjusted admission

## V: HOSPITAL UTILIZATION

Reconciling RI's relatively high per-capita expenses when compared to the national rate, with its relatively lower unit-expenses suggests there was some greater hospital utilization here than elsewhere. Table 3 supports this explanation and provides raw utilization rates for select inpatient and outpatient services.<sup>9</sup>

Hospital inpatient utilization in RI was low compared to national rates but outpatient utilization, specifically outpatient surgeries, exceeded the national rate by +41%. This is one service that helped drive the relatively high per-capita hospital expenses in the state.

RI's **inpatient admission** rate (116 per 1,000) ranked 29<sup>th</sup> in the country, and -3% **below** the national rate of 120. RI's rate was also +1% **above** the New England rate (115), and the 2<sup>nd</sup> **highest** in the region (behind only Massachusetts at 125).

RI's **inpatient day-use** rate (614 per 1,000) ranked 34<sup>th</sup> in the U.S., and -9% **below** the national rate of 673. RI's rate was also -5% **below** the New England rate (643), and ranked the 3<sup>rd</sup> **lowest** of all N.E. states.

RI's **inpatient surgical** rate (35.3 per 1,000) ranked 23<sup>rd</sup> in the U.S., and +3% **above** the national rate of 34.2. RI's rate was also +10% **higher** than the regional rate (32) and the **highest** in New England.

On the outpatient side, RI's **ER** use rate (399 per 1,000) ranked 22<sup>nd</sup> in the country, and +3% **higher** than the national rate of 384. RI's rate was also -9% **below** the regional rate (440) and ranked the **lowest** of all N.E. states.

RI's **outpatient visit** rate (1,585 per 1,000) ranked 29<sup>th</sup> in the country, and +1% **higher** than the national rate of 1,563. RI's rate was also -28% **lower** than the New England rate (2,197), and the **lowest** of all N.E. states.

RI's **outpatient surgical** rate (83.1 per 1,000) ranked 7<sup>th</sup> in the U.S., and +41% **higher** than the national rate of 59.1. RI's rate was also +7% **higher** than the regional rate (77.6) and the 3<sup>rd</sup> **lowest** in New England.

---

<sup>9</sup> No conclusions are drawn regarding the 'appropriateness' or 'cost-effectiveness' of RI's hospital utilization rates compared to national or regional rates

3: 2004 HOSPITAL UTILIZATION RATES <sup>1</sup> (per 1,000 Population)												
	INPATIENT SERVICES						OUTPATIENT SERVICES					
	Admissions	Rank	Inpatient Days	Rank	Inpatient Surgeries	Rank	Emergency Visits	Rank	Outpatient Visits	Rank	Outpatient Surgeries	Rank
Alabama	158	2	809	11	45.1	2	447	9	1,377	34	75.3	11
Alaska	69	50	436	46	41.7	9	387	30	1,644	25	67.2	20
Arizona	109	34	484	43	31.3	39	304	45	638	50	37.9	48
Arkansas	139	9	745	19	42.0	8	444	11	1,316	35	53.1	36
California	97	40	511	41	26.0	47	280	47	1,043	45	35.7	50
Colorado	95	42	467	45	29.3	42	292	46	1,219	39	42.5	45
Connecticut	111	33	642	31	32.0	36	405	19	1,595	28	57.0	32
Delaware	124	19	774	16	38.0	13	392	25	1,855	17	75.2	12
Florida	134	12	696	22	36.9	17	390	27	896	47	46.9	40
Georgia	107	36	690	24	32.4	35	396	24	1,122	43	58.1	31
Hawaii	91	45	693	23	23.1	49	258	50	1,212	40	36.6	49
Idaho	91	44	479	44	31.3	40	344	37	1,400	31	41.3	47
Illinois	125	18	661	29	32.9	32	389	28	1,840	19	56.3	33
Indiana	117	28	651	30	33.7	28	421	16	2,066	14	69.0	17
Iowa	122	22	798	12	36.6	18	361	33	2,917	2	113.3	2
Kansas	121	23	773	17	35.4	22	341	38	1,801	21	61.4	28
Kentucky	146	6	816	10	40.9	10	545	4	1,597	27	88.2	5
Louisiana	154	3	854	8	37.7	14	547	3	1,752	23	59.8	29
Maine	115	31	623	32	33.2	31	540	5	2,586	5	89.7	4
Maryland	119	25	574	38	34.2	27	389	29	858	48	65.1	23
Massachusetts	125	17	690	25	32.6	34	448	8	2,519	6	84.7	6
Michigan	118	27	621	33	35.0	25	411	17	2,332	9	77.2	9
Minnesota	123	20	785	14	37.4	16	306	44	1,563	30	58.5	30
Mississippi	147	5	955	5	42.1	7	552	2	900	46	51.8	38
Missouri	145	7	766	18	37.6	15	445	10	2,368	8	69.0	18
Montana	115	30	1,125	3	35.1	24	318	42	2,806	3	41.5	46
Nebraska	121	24	923	7	40.7	11	316	43	1,945	15	71.5	15
Nevada	100	39	534	40	30.8	41	260	49	788	49	45.8	42
New Hampshire	90	46	499	42	29.1	43	434	12	1,850	18	72.5	14
New Jersey	127	16	680	26	32.7	33	348	35	1,689	24	48.7	39
New Mexico	86	47	410	47	25.6	48	381	32	2,267	11	42.6	44
New York	131	13	961	4	34.8	26	396	23	2,191	13	67.0	21
North Carolina	118	26	716	20	35.7	21	408	18	1,385	33	71.2	16
North Dakota	139	10	1,214	2	45.2	1	401	21	2,514	7	74.2	13
Ohio	129	15	674	27	36.3	19	471	7	2,194	12	69.0	19
Oklahoma	129	14	673	28	36.3	20	386	31	1,127	42	53.7	35
Oregon	95	41	407	48	31.9	37	319	41	1,867	16	52.5	37
Pennsylvania	149	4	827	9	44.1	4	425	13	2,268	10	80.1	8
Rhode Island	116	29	614	34	35.3	23	399	22	1,585	29	83.1	7
South Carolina	122	21	696	21	42.4	6	404	20	1,275	37	65.1	24
South Dakota	134	11	1,349	1	43.3	5	279	48	1,759	22	63.5	27
Tennessee	140	8	792	13	39.9	12	501	6	1,238	38	63.9	26
Texas	112	32	587	37	33.7	29	354	34	1,088	44	46.6	41
Utah	92	43	399	49	27.2	46	347	36	1,628	26	65.4	22
Vermont	85	48	559	39	22.6	50	421	15	3,240	1	95.3	3
Virginia	103	37	599	36	31.8	38	391	26	1,211	41	65.0	25
Washington	85	49	397	50	27.8	45	334	40	1,293	36	42.8	43
West Virginia	164	1	940	6	44.6	3	623	1	2,708	4	115.5	1
Wisconsin	109	35	605	35	33.3	30	338	39	1,808	20	76.0	10
Wyoming	100	38	779	15	28.9	44	425	14	1,391	32	56.1	34
New England	115		643		32.0		440		2,197		77.6	
United States	120		673		34.2		384		1,563		59.1	

<sup>1</sup> Source: *Hospital Statistics*, 2006 Ed., American Hospital Association

## VI: HOSPITAL REIMBURSEMENT

4: UNIT-REIMBURSEMENT <sup>1</sup>		
	Amount	Rank
Alaska	\$11,518	1
New York	\$8,455	2
Minnesota	\$7,849	3
Maine	\$7,619	4
California	\$7,406	5
Wisconsin	\$7,393	6
Montana	\$7,335	7
Utah	\$7,321	8
Massachusetts	\$7,228	9
Virginia	\$7,193	10
Washington	\$7,164	11
New Jersey	\$7,157	12
Oregon	\$7,156	13
Colorado	\$7,108	14
Delaware	\$6,989	15
South Dakota	\$6,972	16
Nevada	\$6,963	17
Connecticut	\$6,930	18
North Carolina	\$6,915	19
North Dakota	\$6,886	20
Wyoming	\$6,885	21
Mississippi	\$6,865	22
Indiana	\$6,842	23
Nebraska	\$6,782	24
South Carolina	\$6,782	25
Missouri	\$6,732	26
New Hampshire	\$6,685	27
Illinois	\$6,653	28
Hawaii	\$6,634	29
New Mexico	\$6,593	30
Iowa	\$6,590	31
Pennsylvania	\$6,552	32
Maryland	\$6,510	33
Oklahoma	\$6,480	34
Michigan	\$6,451	35
Ohio	\$6,415	36
Texas	\$6,341	37
Tennessee	\$6,311	38
Georgia	\$6,293	39
Vermont	\$6,283	40
Rhode Island	\$6,242	41
Kansas	\$5,929	42
Florida	\$5,885	43
Arizona	\$5,871	44
Kentucky	\$5,851	45
Arkansas	\$5,833	46
West Virginia	\$5,823	47
Idaho	\$5,739	48
Louisiana	\$5,558	49
Alabama	\$5,140	50
New England	\$7,137	
United States	\$6,932	

<sup>1</sup> 2004 Medicare case-mix adjusted hospital reimbursement per adjusted

Table 4 ranks each state's 2004 hospital unit-reimbursement rates, or what the payors (third parties and patients) actually paid for hospital care. Generally, hospitals have less control over their reimbursement than their expenses. Reimbursement is a more complex interaction of each hospital's expense structure, payor mix, market share and negotiating skills.

RI hospitals' reimbursement of \$6,242 per adjusted admission, ranked 41<sup>st</sup> in the country (the 10<sup>th</sup> **lowest**), and -10% **less** than the national rate of \$6,932. RI also had the **lowest** reimbursement in N.E., -13% **below** the regional amount of \$7,137.

RI's 2004 reimbursement was -\$788 less than its expenses per unit-of-service (not case-mix adjusted). This was the 4<sup>th</sup> largest shortfall in the country, above only Massachusetts (-\$1,063), New York (-\$1,030), and Hawaii (-\$821).

Given this unenviable position, however, one cannot conclude that all hospitals lost money from operations in 2004<sup>10</sup> because the unit-expenses exceeded unit-reimbursement statewide. These are aggregate data, and not included were other non-patient sources of hospital operating revenue (e.g., investment income, and other operating funds) all of which affect profitability. However, this does lend support to the hospitals' contentions that they struggled with low reimbursement rates, at least back in 2004.

<sup>10</sup> 8 of RI's 13 hospitals posted operating profits in 2004, and on an aggregate basis, there was a \$23.3m operating profit statewide; *Hospital Financial Dataset (2005)*, HEALTH, Cryan, B., 5/18/06

## VI: HOSPITAL COSTS TRENDS

Table 5 compares each state's 2002 and 2004 hospital expenses and reimbursement rates. For this period, RI's hospital expenses **increased +11.8%**, the 17<sup>th</sup> **largest** change in the country, which was up +10.7% overall. The New England rate of increase was +11.2%, and only Massachusetts (+12.4%) rose at a faster rate than RI. Given this fairly sizable increase in expenses over the period, RI's national ranking rose from the 32<sup>nd</sup> most expensive state in 2002, to the 22<sup>nd</sup> most expensive in 2004.

On the revenue side, RI's unit-reimbursement **increased +13%**, the 16<sup>th</sup> **largest** change in the country, which was up +10.7% overall. Regionally, unit-reimbursement increased +14.2% overall, and Massachusetts (+16.5%), and Connecticut (+13.3%) were the only New England states to exceed RI. To put this into context, however, RI ranked 43<sup>rd</sup> highest in reimbursement in 2002 versus 41<sup>st</sup> in 2004, a marginal relative change.

From a financial standpoint, this situation was favorable to the hospitals. To have reimbursement increase at a faster pace than expenses, albeit by a small margin, was certainly preferable to the alternative.

Table 5 (and comparison of Tables 3 and 4), also illustrates the relationship between expenses and reimbursement. All of the five highest reimbursed states (i.e., Alaska, New York, Minnesota, Maine, and California) were among the top five most expensive. Likewise, three of the five lowest reimbursed states (i.e., Alabama, Louisiana, and Idaho) were among the five least expensive.

This association is not coincidental. It is in the economic self-interest of hospitals to maximize reimbursement (while minimizing expenses). At the same time, payors are indisposed to reimburse hospitals much above the cost (i.e., expense) of providing services. To the extent that no one provider or payor exercises undue control over the marketplace, this healthy balance prevails.

5: 2002-2004 HOSPITAL COSTS CHANGES									
UNIT-EXPENSES					UNIT-REIMBURSEMENT				
	2002 <sup>1</sup>	2004	% Change	Rank		2002 <sup>1</sup>	2004	% Change	Rank
West Virginia	\$4,626	\$5,874	27.0%	1	West Virginia	\$4,579	\$5,823	27.1%	1
Florida	\$5,000	\$6,088	21.8%	2	Virginia	\$5,819	\$7,193	23.6%	2
Virginia	\$5,820	\$6,911	18.8%	3	Delaware	\$5,810	\$6,989	20.3%	3
Delaware	\$6,163	\$7,262	17.8%	4	Alaska	\$9,654	\$11,518	19.3%	4
Maryland	\$5,581	\$6,563	17.6%	5	Maryland	\$5,466	\$6,510	19.1%	5
New York	\$8,002	\$9,315	16.4%	6	Florida	\$5,014	\$5,885	17.4%	6
Alaska	\$10,441	\$12,053	15.4%	7	Washington	\$6,106	\$7,164	17.3%	7
Tennessee	\$5,475	\$6,312	15.3%	8	New York	\$7,229	\$8,455	17.0%	8
Oregon	\$6,240	\$7,193	15.3%	9	Massachusetts	\$6,206	\$7,228	16.5%	9
Washington	\$6,278	\$7,226	15.1%	10	Tennessee	\$5,556	\$6,311	13.6%	10
Oklahoma	\$5,654	\$6,473	14.5%	11	Oklahoma	\$5,710	\$6,480	13.5%	11
Alabama	\$4,622	\$5,267	13.9%	12	California	\$6,534	\$7,406	13.4%	12
California	\$6,777	\$7,712	13.8%	13	Connecticut	\$6,119	\$6,930	13.3%	13
Pennsylvania	\$5,872	\$6,629	12.9%	14	Pennsylvania	\$5,788	\$6,552	13.2%	14
Massachusetts	\$7,206	\$8,096	12.4%	15	Wisconsin	\$6,539	\$7,393	13.1%	15
Wisconsin	\$6,501	\$7,286	12.1%	16	Rhode Island	\$5,522	\$6,242	13.0%	16
Rhode Island	\$6,124	\$6,846	11.8%	17	Michigan	\$5,714	\$6,451	12.9%	17
Connecticut	\$6,355	\$7,097	11.7%	18	New Hampshire	\$5,923	\$6,685	12.9%	18
Michigan	\$5,885	\$6,565	11.6%	19	Oregon	\$6,342	\$7,156	12.8%	19
Illinois	\$6,236	\$6,897	10.6%	20	Illinois	\$5,946	\$6,653	11.9%	20
New Hampshire	\$5,903	\$6,499	10.1%	21	Ohio	\$5,740	\$6,415	11.8%	21
Maine	\$6,889	\$7,567	9.8%	22	New Mexico	\$5,920	\$6,593	11.4%	22
Ohio	\$5,885	\$6,459	9.8%	23	Maine	\$6,870	\$7,619	10.9%	23
Arkansas	\$5,318	\$5,835	9.7%	24	Montana	\$6,620	\$7,335	10.8%	24
Montana	\$6,664	\$7,310	9.7%	25	Wyoming	\$6,214	\$6,885	10.8%	25
Kansas	\$5,414	\$5,933	9.6%	26	Arizona	\$5,307	\$5,871	10.6%	26
Iowa	\$6,293	\$6,879	9.3%	27	Kansas	\$5,377	\$5,929	10.3%	27
Mississippi	\$6,094	\$6,609	8.5%	28	Iowa	\$6,039	\$6,590	9.1%	28
Georgia	\$5,887	\$6,362	8.1%	29	Mississippi	\$6,309	\$6,865	8.8%	29
Arizona	\$5,221	\$5,639	8.0%	30	Alabama	\$4,742	\$5,140	8.4%	30
New Mexico	\$6,128	\$6,590	7.5%	31	Arkansas	\$5,453	\$5,833	7.0%	31
New Jersey	\$6,912	\$7,409	7.2%	32	Georgia	\$5,886	\$6,293	6.9%	32
Wyoming	\$6,357	\$6,784	6.7%	33	New Jersey	\$6,701	\$7,157	6.8%	33
South Carolina	\$6,342	\$6,765	6.7%	34	Utah	\$6,876	\$7,321	6.5%	34
Texas	\$6,228	\$6,613	6.2%	35	Indiana	\$6,436	\$6,842	6.3%	35
Indiana	\$6,232	\$6,577	5.5%	36	Kentucky	\$5,536	\$5,851	5.7%	36
Kentucky	\$5,468	\$5,749	5.1%	37	Hawaii	\$6,303	\$6,634	5.2%	37
Hawaii	\$6,932	\$7,269	4.9%	38	South Carolina	\$6,465	\$6,782	4.9%	38
Missouri	\$6,583	\$6,881	4.5%	39	Missouri	\$6,445	\$6,732	4.5%	39
Utah	\$6,692	\$6,964	4.1%	40	North Carolina	\$6,631	\$6,915	4.3%	40
Minnesota	\$7,630	\$7,866	3.1%	41	Minnesota	\$7,600	\$7,849	3.3%	41
Vermont	\$6,183	\$6,233	0.8%	42	Vermont	\$6,104	\$6,283	2.9%	42
North Carolina	\$6,695	\$6,741	0.7%	43	Texas	\$6,230	\$6,341	1.8%	43
Louisiana	\$5,650	\$5,606	-0.8%	44	Louisiana	\$5,692	\$5,558	-2.3%	44
North Dakota	\$7,136	\$7,062	-1.0%	45	North Dakota	\$7,089	\$6,886	-2.9%	45
Colorado	\$6,918	\$6,809	-1.6%	46	Colorado	\$7,325	\$7,108	-3.0%	46
Nebraska	\$6,885	\$6,586	-4.4%	47	Nebraska	\$7,072	\$6,782	-4.1%	47
South Dakota	\$7,538	\$7,038	-6.6%	48	South Dakota	\$7,463	\$6,972	-6.6%	48
Nevada	\$7,689	\$6,738	-12.4%	49	Nevada	\$8,157	\$6,963	-14.6%	49
Idaho	\$7,132	\$5,621	-21.2%	50	Idaho	\$7,091	\$5,739	-19.1%	50
New England	\$6,854	\$7,624	11.2%		New England	\$6,250	\$7,137	14.2%	
United States	\$6,404	\$7,091	10.7%		United States	\$6,261	\$6,932	10.7%	

<sup>1</sup> Source: *Hospital Costs in Rhode Island (2002)*, Cryan B., HEALTH, May 2004

*this page intentionally left blank*

APPENDIX A: 2004 DATA INPUTS <sup>1</sup>								
	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
	Admissions	Total Gross Patient Revenue (millions)	Gross Inpatient Revenue (millions)	Total (Adj.) Admissions (1*(2/3))	Population (thousands)	Net Patient Revenue (millions)	Total Expenses (millions)	Medicare Case-Mix Index <sup>2</sup>
Alabama	715,709	\$21,598	\$14,229	1,086,364	4,530	\$6,572	\$6,734	1.1769
Alaska	45,359	\$2,310	\$1,338	78,292	655	\$1,007	\$1,054	1.1167
Arizona	624,583	\$20,984	\$14,738	889,279	5,744	\$7,144	\$6,861	1.3682
Arkansas	382,836	\$10,375	\$6,514	609,782	2,753	\$4,014	\$4,015	1.1286
California	3,468,538	\$168,895	\$122,089	4,798,300	35,894	\$47,685	\$49,656	1.3418
Colorado	435,001	\$16,961	\$10,575	697,685	4,601	\$6,585	\$6,308	1.3278
Connecticut	389,728	\$13,295	\$8,122	637,979	3,504	\$5,968	\$6,112	1.3498
Delaware	103,169	\$2,744	\$1,754	161,452	830	\$1,524	\$1,584	1.3510
Florida	2,322,370	\$82,133	\$55,347	3,446,284	17,397	\$26,418	\$27,326	1.3025
Georgia	943,837	\$29,775	\$18,157	1,547,806	8,829	\$12,032	\$12,163	1.2352
Hawaii	114,341	\$3,835	\$2,348	186,771	1,263	\$1,603	\$1,756	1.2938
Idaho	127,381	\$2,999	\$1,718	222,392	1,393	\$1,753	\$1,717	1.3733
Illinois	1,586,401	\$53,784	\$33,429	2,552,390	12,714	\$20,960	\$21,730	1.2344
Indiana	730,610	\$23,659	\$13,296	1,300,036	6,238	\$11,356	\$10,916	1.2767
Iowa	359,611	\$9,647	\$5,138	675,219	2,954	\$4,868	\$5,081	1.0939
Kansas	330,712	\$10,050	\$6,042	550,123	2,736	\$4,060	\$4,063	1.2448
Kentucky	605,707	\$17,368	\$10,212	1,030,230	4,146	\$7,015	\$6,893	1.1638
Louisiana	696,154	\$19,692	\$12,631	1,085,274	4,516	\$7,356	\$7,419	1.2194
Maine	151,135	\$4,678	\$2,467	286,588	1,317	\$2,567	\$2,550	1.1757
Maryland	661,449	\$10,298	\$6,825	997,998	5,558	\$8,357	\$8,425	1.2863
Massachusetts	801,137	\$30,533	\$16,031	1,525,873	6,417	\$13,502	\$15,124	1.2243
Michigan	1,190,293	\$40,373	\$22,587	2,127,594	10,113	\$17,203	\$17,506	1.2533
Minnesota	626,693	\$20,252	\$12,320	1,030,226	5,101	\$9,183	\$9,202	1.1356
Mississippi	427,401	\$11,542	\$7,255	679,943	2,903	\$4,643	\$4,470	0.9947
Missouri	831,892	\$27,845	\$16,625	1,393,377	5,755	\$11,310	\$11,559	1.2057
Montana	106,619	\$2,602	\$1,443	192,272	927	\$1,534	\$1,528	1.0874
Nebraska	211,025	\$6,737	\$4,121	345,003	1,747	\$3,351	\$3,254	1.4322
Nevada	232,603	\$8,686	\$6,156	328,185	2,335	\$2,881	\$2,788	1.2606
New Hampshire	117,130	\$4,394	\$2,021	254,679	1,300	\$2,251	\$2,189	1.3223
New Jersey	1,103,743	\$54,896	\$40,437	1,498,397	8,699	\$13,514	\$13,990	1.2602
New Mexico	163,416	\$5,598	\$3,214	284,642	1,903	\$2,305	\$2,304	1.2281
New York	2,525,777	\$89,874	\$59,845	3,793,148	19,227	\$38,425	\$42,333	1.1981
North Carolina	1,005,965	\$29,129	\$17,237	1,699,991	8,541	\$13,654	\$13,311	1.1615
North Dakota	88,004	\$2,449	\$1,188	181,415	634	\$1,379	\$1,414	1.1038
Ohio	1,474,876	\$51,440	\$29,068	2,609,985	11,459	\$21,987	\$22,138	1.3132
Oklahoma	454,875	\$11,997	\$7,877	692,840	3,524	\$4,736	\$4,731	1.0549
Oregon	341,307	\$9,831	\$5,702	588,423	3,595	\$5,180	\$5,207	1.2302
Pennsylvania	1,846,702	\$78,402	\$50,833	2,848,252	12,406	\$23,605	\$23,881	1.2649
Rhode Island	125,308	\$4,663	\$2,503	233,410	1,081	\$1,901	\$2,085	1.3047
South Carolina	512,908	\$17,358	\$11,114	801,079	4,198	\$6,796	\$6,779	1.2509
South Dakota	103,495	\$2,615	\$1,617	167,434	771	\$1,426	\$1,440	1.2217
Tennessee	825,269	\$26,373	\$16,240	1,340,194	5,901	\$9,901	\$9,903	1.1706
Texas	2,516,718	\$91,642	\$60,348	3,821,804	22,490	\$30,982	\$32,312	1.2784
Utah	219,021	\$6,464	\$3,952	358,217	2,389	\$3,216	\$3,060	1.2265
Vermont	52,853	\$1,899	\$681	147,391	621	\$1,112	\$1,103	1.2007
Virginia	770,482	\$25,004	\$15,465	1,245,714	7,460	\$10,462	\$10,051	1.1675
Washington	528,145	\$19,409	\$11,175	917,285	6,204	\$8,939	\$9,017	1.3603
West Virginia	297,957	\$7,105	\$4,045	523,393	1,815	\$3,474	\$3,504	1.1399
Wisconsin	598,542	\$17,926	\$9,932	1,080,324	5,509	\$9,556	\$9,418	1.1965
Wyoming	50,509	\$1,191	\$675	89,106	507	\$704	\$694	1.1474
New England	1,637,291	\$59,462	\$31,825	3,059,158	14,239	\$27,301	\$29,162	1.2504
United States	35,086,061	\$1,239,397	\$792,899	54,843,770	293,655	\$470,464	\$481,247	1.2375

<sup>1</sup> Source: Hospital Statistics, 2006 Ed., American Hospital Association

<sup>2</sup> Source: Almanac of Hospital Financial and Operating Indicators, 2006 Ed., Ingenix







DAVID R. GIFFORD, MD, MPH, DIRECTOR OF HEALTH

DONALD L. CARCIERI, GOVERNOR