

## **The Community Value Index Hospital Ranking**

### **By James O. Cleverley**

The mention of another hospital rating system may seem clichéd at best. However, rankings can be helpful when comprised and evaluated in a meaningful and logical fashion. In addition, rating systems are especially beneficial when they measure relevant performance factors – including areas that, perhaps, have not been evaluated in other rating systems.

To that end, a rating system seemed desirable for the financial value hospitals provide to the communities they serve. Accordingly, Cleverley & Associates developed its Community Value Index (CVI) Hospital Ranking. The CVI rankings were recently published in the State of the Hospital Industry – 2004 Edition.

The CVI is composed of eight measures that assess a hospital's performance in three areas:

1. Financial performance and reinvestment
2. Hospital cost structure
3. Hospital charge structure

Fundamentally, the CVI suggests that a hospital provides value to the community when it is financially viable, is appropriately reinvesting back into the facility, maintains a low cost structure, and has reasonable charges.

Of note, is the absence of “quality” measures in the CVI. While we believe that quality of care is an important measure for hospitals, it is being increasingly reported by a number of private and public organizations. We do not, however, know of any attempt to evaluate hospitals on the basis of their value to the community. This is the primary objective of the CVI and we believe that our methodology is unique and timely.

The CVI, as suggested above, seeks to assess the value a hospital has in its community by examining three core areas. Within the core areas, eight measures (Figure 1) were selected to determine hospital performance. A discussion of the core areas and individual measures follows:

#### Core Area One: Financial performance and reinvestment

The first core area of the CVI examines a hospital's financial performance and facility reinvestment. A hospital must be financially viable in order to be a valuable asset in the community. Perhaps, there is no greater disservice than to have a facility purport to be a leading care provider to citizens and then close due to poor financial management. Of course, a hospital must also continue reinvestment back into the facility in order to provide for current and emerging health needs in the community. This does not imply that hospitals should spend money just for the sake of spending it, but rather making wise investments into capital equipment that will be used efficiently.

Appropriately combining these two concepts of financial strength and reinvestment enhances a hospital's value in the community. This core area of the CVI suggests that hospitals in both for-profit and non-profit settings should be generating a return on operations; however, they should be using those resources to continue to improve the level of care provided to the communities they serve. The four measures used to determine a hospital's performance in this core area are: total margin, growth in net fixed assets, fixed asset turnover, and debt financing percentage.

Total margin provides information on the level of profitability at a hospital. Without appropriate returns, a hospital will be unable to continue serving the community's health needs. As suggested previously, however, providing value to the community also involves reinvestment back into the facility. To measure this concept, a growth rate in net fixed assets was determined for a two-year period for each hospital in our study. This was balanced with an examination of how efficiently hospitals use their plant and equipment, as measured by the fixed asset turnover ratio.

Finally, debt financing percentage measures how the hospital is financing its capital investments. While debt is not a negative thing, too much debt certainly will cripple a hospital – putting it into jeopardy and compromising its ability to continue to meet the needs of the community it serves.

#### Core Area Two: Hospital cost structure

The next core area of the CVI involves a hospital's cost structure. Keeping costs low allows a hospital to provide efficient care that can result in lower costs for community members and third party payers. Allowing for an appropriate margin on care provided to community members will be less costly to them if the hospital's underlying cost structure is lower. In the end, this efficient care also promotes value to the community.

In order to assess a hospital's performance in this area two measures were used: Medicare cost per discharge (adjusted for case mix and wage index), and Medicare cost per visit (adjusted for relative weight and wage index).

Although the CVI cost measures are restricted to the Medicare population, this does not present a particularly strong case against applying the results to the rest of the hospital's patient population for two reasons. One, Medicare represents the largest patient population for almost every US hospital. Secondly, because Medicare pays on a fixed, prospective payment methodology, hospitals have an incentive to keep costs low with these patients. If a hospital has high costs in treating Medicare patients, it can be reasonably assumed that it would also have high costs in treating other patients, as well.

#### Core Area Three: Hospital charge structure

Finally, the last core area of the CVI examines a hospital's charges. Certainly, this area has received great attention in the past few years as health expenses, in general, have been rising. Obviously, consumers and third party payers desire healthcare that is reasonably priced. However, hospitals are often in a difficult position because their pricing does not reflect actual payment that will be recovered for provided care. A patient's bill may appear less shocking if the individual knew what discounted price was actually compensated by the third party payer. In the end, however, hospitals should strive for pricing that is reasonable and competitive with peer facilities. The CVI examines this by comparing hospital charges among hospitals in similar size/geographic classes.

Similar in methodology to assessing a hospital's cost structure, the CVI determines a hospital's charges based on two measures: Medicare charge per discharge (adjusted for case mix and wage index) and Medicare charge per visit (adjusted for relative weight and wage index). As stated in the cost discussion, the CVI's charge measures can be reasonably applied to the rest of the hospital's non-Medicare business because Medicare represents such a significant proportion of total business for most US hospitals. Also, gross charges for Medicare patients should be applicable to gross charges for other payers, as well because prices for specific billable services do not vary by payer.

## Calculating the Community Value Index

### *Assigning CVI hospitals to appropriate comparison groups*

All US acute care facilities were included in the CVI study. However, hospitals that had less than \$10 million in net patient annual revenue were removed, as were hospitals that did not contain a value for each of the eight measures described above. In addition, a small number of hospitals did not have outpatient results (facilities in Maryland and Utah). These hospitals remained in the study; however, their inpatient values were assigned a double weight.

After assembling all of the study group members, hospitals were divided among four different size/geographic groups, as follows:

- Urban – Large (greater than \$100 million annual net patient revenue)
- Urban – Small (less than \$100 million annual net patient revenue)
- Rural – Large (greater than \$28 million annual net patient revenue)
- Rural – Small (less than \$28 million annual net patient revenue)

Dividing hospitals among these size/geographic groups allowed more accurate comparison and appropriate ranking.

### *Calculating the CVI*

As can be seen from above, the CVI's eight measures provide an assessment of a hospital's performance in three core areas: financial performance and reinvestment, cost structure, and charge structure. The combination of the results of these eight measures for each hospital creates the community value index. To explain further, a hospital's result for each measure was compared against all other results for hospitals in its size/geographic group and then given a score based on its relative position among the other hospitals in that group. These ranked scores for each measure were then combined to provide a composite score that is the Community Value Index. Each of the three areas has equal weighting even though the number of measures in each area may be different. For example, the financial viability and plant reinvestment has four measures while the cost and charge areas have two measures apiece. The relative weights assigned to the charge and cost measures is therefore double the individual measure weight for the four measures in the financial viability and plant reinvestment area.

### *Top 100 and Five Star Hospitals Ranking*

Once a composite CVI score was obtained for each facility in the study group, hospitals were ranked in two ways: CVI Top 100 and CVI Five Star Hospitals. The Top 100 listing included the highest scoring facilities in the United States. In addition to the Top 100 Hospitals ranking, those hospitals that achieved CVI scores within the top quintile (20 percent) of all hospitals in the study were designated as "Five Star Hospitals." Both lists can be found in the [State of the Hospital Industry – 2004 Edition](#).

## Findings

One area of research that has evolved from the CVI study includes analysis regarding hospital ownership. Specifically, the CVI results were separated out by ownership classification to determine if there were any connections between ownership and community value. The analysis did show that there were some fairly consistent trends across all size/geographic groups in the CVI study. Figure 2 provides the analysis in a table format. The figure presents the number of hospitals that were in the CVI study by ownership classification as compared to the number of hospitals designated as CVI Five Star Hospitals (top 20 percent). As can be seen, perhaps the most apparent finding is the greater percentage of voluntary non-profit (VNP) hospitals designated as "Five Star" in both the 'Urban' and 'Rural' categories. By contrast, investor-owned

(IO) facilities did not contain as many “Five Star” hospitals as would be expected, given the number of investor-owned hospitals in the CVI study. Government-owned facilities and VNP church-owned hospitals contained roughly the same amount of “Five Star” facilities as would be expected. *(Results were similar for the four expanded size/geographic groups: Urban Large/Small, Rural Large/Small).*

What were the driving forces behind the results? Figure 3 provides median values for the hospitals in the CVI study across the eight measures. In general, the median values illustrate what hurt the investor-owned hospital group as opposed to what allowed the VNP-Other hospitals to achieve better results. As can be seen, investor-owned facilities achieved markedly higher margin figures as compared to the other three ownership groups; however, IO hospitals lagged behind in plant reinvestment. IO hospitals also carried more debt than the other ownership groups. In addition, VNP hospitals (both ‘other’ and ‘church’) obtained better cost positions than the IO hospitals. Yet, the most significant finding was found in the charge structure results. Clearly, IO hospitals have substantially higher charges than the other ownership groups (approximately 50% higher on both the inpatient and outpatient side as compared to VNP-Other) – perhaps explaining the significantly higher margin figures. In the end, high charges in both the inpatient and outpatient areas hurt the investor-owned facilities in the community value index ranking.

#### Summary

In conclusion, the Community Value Index provides a good overall measure of a hospital’s financial strength and performance in regards to cost and charges. The aggregate of the three core areas can produce value for a community when a hospital achieves a strong financial position, low cost structure, and reasonable charges for services. In general, ownership status correlates with community value – with voluntary non-profit facilities performing better than investor-owned hospitals. While it is possible for hospitals to achieve good results in several of the eight CVI indicator areas, top-performing hospitals posted strong results for each of the measures.

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## **Figure 1**

Community Value Index Components	
Measure	Purpose
<i>Core Area One: Financial Viability and Plant Reinvestment</i>	
Total margin	Assess profitability at hospital
Growth in net fixed assets (2 years)	Assess level of hospital reinvestment
Fixed asset turnover	Assess efficiency of plant use
Debt financing percentage	Assess how hospital is financed
<i>Core Area Two: Hospital Cost Structure</i>	
Medicare cost per discharge (CMI/WI adj)	Assess inpatient cost structure
Medicare cost per visit (RW/WI adj)	Assess outpatient cost structure
<i>Core Area Three: Hospital Charge Structure</i>	
Medicare charge per discharge (CMI/WI adj)	Assess level of inpatient charges
Medicare charge per visit (RW/WI adj)	Assess level of outpatient charges

**Figure 2**

**Community Value Index  
Ownership Analysis**

Rural Overall			5 Star		Urban Overall			5 Star	
Type	Number	%	Number	%	Type	Number	%	Number	%
Gov	343	27.9%	72	29.3%	Gov	257	11.1%	38	8.2%
VNP Church	133	10.8%	21	8.5%	VNP Church	422	18.2%	89	19.1%
VNP Other	589	47.9%	140	56.9%	VNP Other	1168	50.3%	293	63.0%
IO	164	13.3%	13	5.3%	IO	473	20.4%	45	9.7%
	1229	100.0%	246	100.0%		2320	100.0%	465	100.0%

**Figure 3**

CVI Key Indicators									
	Net Patient Revenue	Financial Performance & Reinvestment				Cost Structure		Charge Structure	
		Total Margin	Debt Financing %	2 yr Growth in Net Fixed Assets %	Fixed Asset Turnover	Medicare Cost Per Discharge (CMI/WI adj)	Medicare Cost Per APC (RW/WI adj)	Medicare Charge Per Discharge (CMI/WI adj)	Medicare Charge Per APC (RW/WI adj)
Gov	33,808,632	3.06	37.24	3.86	2.18	5,592	69	10,242	175
VNP Church	97,176,980	2.65	46.40	2.48	2.29	5,558	62	12,325	180
VNP Other	70,097,652	2.12	47.86	2.85	2.34	5,526	63	10,618	167
IO	52,648,432	6.26	52.20	1.20	2.32	5,588	70	16,288	251