



# How to Assess Your Hospital's Relative Price Comparativeness

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Michelle Marshall, CFO at Community Hospital, is preparing for negotiations with her largest private payer, Dividend Health Plan. Michelle is concerned because Meredith Dean, Manager of Provider Relations, has told her that Community's charges are very high relative to other hospitals in the area and that Dividend expects a much larger discount than it had been receiving. Michelle believed prior to this point that her charges were low relative to her competitors.

This situation is most likely played-out in numerous US hospitals on a daily basis. The two central focal points in this type of negotiation are:

1. What portions of the contract are actually affected by price?
2. What measures best capture relative pricing differentials?

### Contract Elements Affected by Price

In many hospital provider contracts, pricing may not be a significant issue. For example, many contracts provide for fixed payment for inpatient services either on a per-diem or per-case basis. Prices are a factor only if there is an outlier provision or separate carve-outs for devices or drugs. Outlier provisions are critical to some hospitals, especially larger facilities where outlier thresholds are more likely to be exceeded. For example, a patient with charges of \$450,000 in a per-diem contract with an \$80,000 outlier threshold and payment at 80% of charges above the threshold would pay \$360,000. There are also a significant number of contracts that have inpatient payment provisions based upon a percentage-of-charges basis, e.g., 85% of billed charges. Outlier provisions or carve-outs are not usually included in these contract types because they are not necessary.

Outpatient payment provisions are much more likely to be affected by prices because there is a greater prevalence of percentage-of-billed-charges payment methods. Sometimes all outpatient services are paid on percentage-of-billed-charges, but more often some segments of outpatient business are paid on a fee-schedule basis. For example, outpatient surgery is often paid on a fee-schedule basis that is related to the eight standard ambulatory surgery center groups. Sometimes, other areas such as emergency department, laboratory, radiology, and therapies are also fee-schedule.

The key point in this brief background is to narrow the area where prices really are relevant. Let's assume, for instance, that Dividend pays Community on a per-diem basis for all inpatient services and 75% of billed charges for all outpatient services. In this situation, inpatient pricing should not be an issue for Dividend, and the focus should be on comparative outpatient prices.

## Best Measures for Pricing Assessment

We have just discussed the importance of isolating where relative price comparisons are needed. In many cases, differentiation between inpatient and outpatient prices is clearly needed. In this regard, it seems clear that any overall charge or price measure based upon adjusted discharges or adjusted patient days would not be desirable.

The critical measurement concept in an adjusted-discharge or adjusted-day measure is the weighting for outpatient revenue. The usual methodology for defining adjusted discharges or days is expressed as a formula:

$$\text{Adjusted discharges (days)} = \text{Inpatient discharges (days)} \times \left[ 1 + \frac{\text{Gross outpatient revenue}}{\text{Gross inpatient revenue}} \right]$$

Average charge per adjusted discharge or per adjusted patient day is a widely used measure of price comparison in the hospital industry. One of the reasons that it is so widely used is that it can be defined from public-use file data such as Medicare cost reports. It is often further refined by using a case-mix index (usually the Medicare case-mix index) to account for case-mix differences across hospitals. We believe this measure is flawed for several reasons. First, charge per adjusted discharge or adjusted patient day does not separate price variation by business sector. One hospital could have high room charges but low prices for outpatient ancillary services. If its contracts are predominantly fixed fee for inpatient and percentage of billed charges for outpatient, the hospital is portrayed as being higher priced than it actually is. Second, inpatient case-mix adjustments do not accurately reflect case-mix variation in outpatient services.

A case-mix index adjustment, whether all payer or Medicare, becomes less effective the larger the percentage of outpatient activity. Hospitals with complex inpatient cases, as measured by high case-mix index values, may not have the same degree of complexity in outpatient arenas. Table 1 provides values for the average Medicare case-mix index for inpatients and the average Medicare relative weight based upon OPPS values for outpatient claims by net patient revenue size. The ratio of these two measures of case mix complexity is not constant, even among large population groups, which means individual hospital comparisons may be very biased.

**Table 1. Measures of Relative Case-Mix Complexity**

<i>Net Patient Revenue Size</i>	<i>Medicare Case Mix Index</i>	<i>Medicare Average Relative Weight per Outpatient Claim</i>	<i>Ratio of Relative Weight to Case Mix</i>
< \$10 million	0.964	4.21	4.37
\$10-50 million	1.128	5.88	5.21
\$50-100 million	1.262	6.91	5.47
\$100-200 million	1.431	7.47	5.22
> \$200 million	1.578	7.72	4.89

Source: 2001 Medpar and 2001 Outpatient Analytical File

## Hospital Charge Index<sup>®</sup>

We believe that a better measure of facility-wide hospital costliness can be constructed by weighting two measures:

1. Medicare charge per discharge – case-mix and wage-index adjusted (MCPD)
2. Medicare charge per outpatient claim – relative value unit and wage-index adjusted (MCPC)

The **Hospital Charge Index<sup>®</sup>** is then constructed as follows:

$$HCI = \left[ \% \text{ Inpatient revenue} \times \frac{MCPD}{\$9,801} \right] + \left[ \% \text{ Outpatient revenue} \times \frac{MCPC}{\$161} \right]$$

The 2001 US median MCPD was \$9,801, and the 2001 median MCPC was \$161.

### *Medicare Charge per Discharge (MCPD)*

MCPD is a good reflection of inpatient charges. Data for computing this measure can be derived from the MedPAR public-use files. Finally, a wage index assigned to the hospital by Medicare is used to restate costs to an index of 1.0. This process results in a unique publicly available number for most hospitals in the US.

The MCPD is not a perfect measure of relative inpatient charges, but we believe it is better than any other publicly available measure of charges or inpatient charges at the facility level for several reasons. The output unit is more comparable than any other.

There is no application of outpatient-equivalent discharges to distort output similarity. The case-mix index used to adjust is specific to those patients and is not extended to non-Medicare patients. Finally, the charges are adjusted for cost-of-living differences.

The major problem with MCPD is its comprehensiveness. In short, the measure may or may not be reflective of charges in other non-Medicare areas. We believe that this is not a major issue for the following reasons. First, Medicare represents the largest payer for most hospitals: approximately 53% of all inpatient days and 44% of discharges. Second, with fixed payment per DRG, there is an incentive to keep costs low. If charges are high in the Medicare area, they will most likely be high in other non-Medicare areas.

### **Medicare Charge per Outpatient Claim (MCPC)**

We use MCPC to assess pricing on the outpatient side of hospital operations. We can construct this measure from Medicare outpatient claims public-use files, which makes its availability a reality for most US hospitals. To derive the measure, we divide the charge per claim by the relative value units of the claim. Until the introduction of the OPSS, there was no universal method to compute RVUs for outpatient claims. We estimate RVUs based on the following taxonomy:

<b>Line-Item Type</b>	<b>RVU Assignment</b>
APC	APC weight
Fee schedule	Fee schedule/natl price per APC = 1.0
Pass-through drugs & biologicals	Avg wholesale price/natl price per APC = 1.0
Pass-through device	Estimated payment/natl price per APC = 1.0

We believe the introduction of the OPSS has provided an opportunity to adjust outpatient charges for relative value unit differences in a manner similar to case-mix index adjustment on the inpatient side. We do not know of any other measure of facility-wide outpatient charges that incorporates relative value unit adjustment to this degree. Medical groups have used resource-based relative value scales (RBRVS) measures, but these were not applicable to hospital outpatient operations.

The MCPC is not a perfect measure of outpatient charges. Like the MCPD, the MCPC does not necessarily reflect charges for non-Medicare patients. Medicare patients are, however, a significant percentage of total outpatient business (21% in 1999). Medicare also pays on a fixed-fee basis now, so a strong incentive to keep charges low should exist. If charges are high for Medicare outpatients, it seems reasonable to conclude that they would be high for other categories.

### ***Merging the MCPD and the MCPC***

The final step in the development of the **Hospital Charge Index**<sup>®</sup> is to combine the MCPD and MCPC. To combine these two measures, we must weight them by the percentage of business activity. The MCPD is, therefore, multiplied by the percentage of inpatient revenue, and the MCPC is multiplied by the percentage of outpatient revenue. The total of inpatient revenue and outpatient revenue percentages should equal 1.0. Data for these values can be taken from Medicare cost reports.

The last step is to “normalize” the MCPD and MCPC around some central value. We have selected \$9,801 for MCPD, which was the estimated 2001 median MCPD, and \$161 for MCPC, which was the estimated 2001 median MCPC.

### **Summary**

We believe utilization of the **Hospital Charge Index**<sup>®</sup>, composed of the Medicare charge per discharge (MCPD) and the Medicare charge per outpatient claim (MCPC), is the best possible charge comparison that can be developed from public-use file data. The index can be determined for every US hospital. The three measures further enable price breakouts for inpatient and outpatient business sectors. This is critical when managed-care contracts have split payment methods between inpatient and outpatient areas.

### Side Bar – Illustration

Table 2 below provides comparative measures of pricing for Community Hospital and its two local competitors. Community Hospital is paid on a per-diem basis for inpatient care in most of its managed-care contracts and on a percentage-of-billed-charges basis for much of its outpatient care. It has been told that its charges are much higher than those of its two local competitors.

The data in Table 2 support the hypothesis of higher prices when adjusted discharge measures are used. While the case-mix-index adjustment makes it less pricey, it is still the highest charge hospital.

The alternative measures discussed in this paper show a different view of Community's pricing structure. On an outpatient side only, Community has lower prices than those of its two competitors. Its inpatient prices are higher than those of its two local competitors. These higher prices may be the result of higher service intensity, e.g., longer length of stay.

If the primary concern of managed care plans is outpatient pricing, Community Hospital does not have high prices. In fact, its prices are lower than the two local competitors' prices, implying Community should have lower discounts, not higher discounts than its two local competitors. The new charge measures introduced here make this distinction very clear.

**Table 2. Comparative Pricing Measures**

	<i>Community Hospital</i>	<i>Competitor 1</i>	<i>Competitor 2</i>
Charge per adjusted discharge (WI adj)	\$14,377	\$11,024	\$10,343
Charge per adjusted discharge (WI & CMI adj)	9,906	8,515	9,751
Medicare charge per discharge (WI & CMI adj)	11,286	10,109	8,353
Medicare charge per outpatient claim (WI & CMI adj)	147.71	189.39	159.28
Inpatient charge index *	1.15	1.03	0.85
Outpatient charge index **	0.92	1.17	0.99
<b>Hospital Charge Index<sup>®</sup> ***</b>	1.05	1.10	0.92
Inpatient revenue %	58.3%	51.6%	48.4%

\*MCPD/\$9,801

\*\* MCPC/\$161

\*\*\* (% IP revenue x IP charge index) + (% OP revenue x OP charge index)