Smart approaches to top-level decision making

# STRATEGIC FINANCIAL PLANNING

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## How hospitals can create cost advantage where product differentiation is not present

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*A challenge exists in finding accurate comparative data for bundled-payment arrangements, such as total hip replacement.*

Cost advantage is necessary when a business is perceived as providing the same products or services as its competitors. In the eyes of many major healthcare payers, hospital services are not perceived as differentiated and are viewed as equally substitutable. While some payers are beginning to introduce value propositions into their payment methodology, many of these plans are merely new ways to reduce payment levels to providers.

Assuming that cost advantage in hospitals will become increasingly important, the critical question is how can hospitals achieve it? In general, two major methodologies for identifying efficient levels of cost exist. First, industry experts can help assess and design the most efficient processes for providing services. Second, benchmarking can identify standards from best practice organizations. Comparative data and benchmarking against other firms is usually the basis for both approaches.

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| Cost per output assessment | | | |
|---|---|---|---|
| **Level of comparison** | **Measurement of cost difficulty** | **Measurement of output difficulty** | **Recommended metrics** |
| Facility | Strong | Challenged | Cost per equivalent discharge |
| Encounter | Challenged | Strong | Cost per MS-DRG or cost per ambulatory patient classification |

*Source:* Cleverley & Associates. Used with permission.

## Cost benchmarking dilemma

The cost benchmark is defined as the ratio of cost divided by output. This is a simple but very accurate picture of the desired goal, but the devil is in the details. Everyone acknowledges that cost and output must be measured in similar ways between compared organizations in the benchmark data and the firm that is comparing itself to that data.

For example, cost needs to be measured in the same way across the comparative data. This leads to a simple but troublesome comparative data issue. There is confidence that the measure of total cost is measured in a similar manner across organizations because of the use of Generally Accepted Accounting Principles (GAAP). If one firm has a total cost of $200 million and another has a total cost of $400 million, there is a great deal of assurance that the $400 million firm is twice as costly as the $200 million firm. The dilemma arises when hospitals provide cost estimates of specific services such as a total hip replacement. As organizations move from facility-level costs to costs for providing specific products or services, greater degrees of cost allocation are required, which can be subjective.

When we examine the comparability of the output metric, the reverse finding is true. It is difficult to derive a facility-wide output metric that would be regarded as comparable. For example, adjusted patient discharges or adjusted patient days are widely recognized as flawed facility-wide metrics. We have advocated using Equivalent Discharges for the last five years as better measures of facility-wide performance because they are better predictors of both revenue and cost (Cleverley, W., "Time to Replace Adjusted Discharges," *hfm* magazine, May 2014, and Cleverley, W., "Understanding Why Hospital Costs are Increasing: It Depends Upon the Metrics," *hfm* magazine, December 2018).

When the output is defined in specific terms, such as a total hip replacement or a specific CT scan, it becomes easier to compare. The catch-22 is that the greater the specificity in output, the less comparable the cost. However, the output becomes more comparable (see the exhibit, page 3).

## Sources of comparative data

Having identified the framework for cost benchmarking, it is important to understand the sources for cost benchmarks and their relative advantages. In general, two major sources of cost benchmarking data are available — public and proprietary. Several public sources are available from individual data firms and hospital association groups. The advantage to this type of data is that it is usually not expensive, and it is easily attainable.

It also has one other distinct advantage because it can often provide provider-specific comparisons. This is important if a firm is striving for cost advantage over a local competitive firm operating in the same market area.

The disadvantage of public data is the lack of control over data collection. The comparability of the data may be questionable either because costs were not measured and defined in the same way across all firms or there are questions regarding the similarity of the output being measured.

Proprietary databases for benchmarking costs rely on hospital specific data that is not publicly available. This data could come from organizations that collect data directly from individual hospitals and pool that data to provide reports to clients or members. Data could also be compiled by large healthcare systems and disseminated to the individual hospitals.

The advantage of proprietary data is that it provides better control of data collection to ensure both costs and outputs are measured and reported in a consistent manner across submitting entities. This can potentially make the comparison more reliable and actionable. The major disadvantage to proprietary data is that it will not be able to provide specific comparisons for hospitals that may be direct competitors. This can be problematic because ultimately the creation of a cost advantage is market specific.

*Healthcare executives are charged with providing services ordered by physicians at the highest level of quality and cost efficiency.*

## Case illustration of effective cost benchmarking

To illustrate effective cost benchmarking, we are borrowing from a situation encountered by many U.S. hospitals. Hospital A has been contacted by one of its larger payers requesting a proposal to provide a bundled payment solution for major joint procedures. The payer has informed them that they already have a proposal from hospital A's primary competitor, hospital B. The hospital has been told that their competitor's bid incorporates expected hospital payment of $12,000, which is the current Medicare payment for MS-DRG 470 — Major Joint Replacement or Reattachment of Lower Extremity w/o MCC. Hospital A wants to assess its own current cost

position for MS-DRG 470 vis a vis that of hospital B.

The first step in being able to identify specific areas for cost reduction is to recognize the ultimate objective. The product in this case is a specific encounter of care, MS-DRG 470. Management's task is to develop a production process that can generate high-quality encounters of care at efficient cost levels. While some policy advocates might say healthcare executives should be more concerned about the efficacy of what they produce (e.g., do we really need more hip replacements?), we believe those decisions are best left to physicians and policymakers. Healthcare executives are charged with providing services ordered by physicians at the highest level of quality and cost efficiency.

Cost per encounter can be expressed as the product of three key cost drivers:

> Intensity of services
> Productivity/efficiency
> Resource prices/salaries and wages

*Intensity of services.* Intensity of services is the mix and quantity of services that produce the encounter of care. For example, a five-day inpatient stay for pneumonia has five days of nursing care, a series of drugs, laboratory procedures and many ancillary services. There is often wide variation in the intensity of services across patients and across hospital providers. While many intensity factors are physician driven, healthcare managers can play an instrumental role in explaining the relative costs associated with alternative treatment protocols. Lowering intensity of services for a defined encounter of care can lead to reductions in total cost per encounter—again, the primary goal if we are seeking cost advantage over competitors.

*Productivity or efficiency.* These are the costs incurred to produce a specific procedure that is part of an overall encounter of care. For example, what staffing mix and levels are used to produce a day of nursing care in specific nursing units? While intensity and productivity are related, they are different. To make the distinction, nursing intensity

**Comparison of two hospitals' MS-DRG 470 costs**

| Expense category | Hospital A ($) | Hospital B ($) | Variance ($) |
|---|---|---|---|
| Average LOS | 2.16 | 1.93 | 0.23 |
| Average routine LOS | 2.13 | 1.87 | 0.26 |
| Average ICU/CCU LOS | 0.03 | 0.06 | -0.03 |
| | | | |
| Routine care | 1,659.00 | 1,293.00 | 366.00 |
| ICU/CCU | 37.00 | 76.00 | -39.00 |
| **Nursing total** | **1,696.00** | **1,369.00** | **327.00** |
| | | | |
| Medical/surgical supplies | 4,303.00 | 4,771.00 | -468.00 |
| Laboratory | 75.00 | 46.00 | 29.00 |
| Operating room | 5,371.00 | 3,481.00 | 1,890.00 |
| Radiology | 227.00 | 76.00 | 151.00 |
| MRI | 0.00 | 2.00 | -2.00 |
| Pharmacy | 1,308.00 | 575.00 | 733.00 |
| Emergency department | 42.00 | 32.00 | 10.00 |
| Cardiology | 12.00 | 23.00 | -11.00 |
| Blood | 17.00 | 11.00 | 6.00 |
| Physical/occupational therapy | 540.00 | 374.00 | 166.00 |
| Inhalation therapy | 31.00 | 15.00 | 16.00 |
| Other | 17.00 | 11.00 | 6.00 |
| **Ancillary total** | **$11,943.00** | **$9,417.00** | **$2,526.00** |
| | | | |
| **Total cost** | **$13,639.00** | **$10,786.00** | **$2,853.00** |

*Source:* Cleverley & Associates. Used with permission.

**Selective physician cost comparisons for MS-DRG 470**

| Physician | Average charges | Average length of stay | Average cost |
|---|---|---|---|
| A | $70,159 | 4.75 | $19,748 |
| B | $58,944 | 4.27 | $16,771 |
| C | $59,892 | 5.00 | $15,987 |
| D | $51,806 | 3.89 | $14,184 |
| E | $42,524 | 2.32 | $11,338 |
| F | $38,771 | 2.00 | $10,361 |

*Source:* Cleverley & Associates. Used with permission.

would involve the number of days involved in the patient stay. Nursing productivity would measure the number of hours nurses worked to provide one day of nursing care.

Cost efficiency is usually associated with specific cost centers or departments, and we often refer to the cost per unit of service in that cost center. For example, cost per laboratory procedure is the departmental measure of efficiency in a lab. Lowering the unit costs of departmental products that comprise a patient encounter can reduce the total cost of the encounter.

*Resource prices or salaries.* As the price to hire staff or purchase supplies and drugs increases, the more expensive the encounter of care. For example, a hospital can minimize the length of stay associated with an inpatient encounter and it can also maintain low nurse staffing ratios, but if it pays salaries to nurses that are 25% higher than its peers, its overall costs may still be high.

## Cost assessment

The preliminary cost comparison of MS-DRG 470 between hospital A and hospital B shows a total cost variance of $2,853 (see exhibit left). The data used here is from 2017 Medicare Provider Analysis and Review (MEDPAR) files and 2017 Medicare Cost Reports — both widely available at minimal cost from multiple vendors.

Two factors must be acknowledged. First, the data represent Medicare patients and not patients with commercial payers. There are few differences between Medicare costs and commercial payer costs for this MS-DRG. Second, the cost is determined by applying Medicare cost center ratios of cost to charges to revenue-center charges from the MEDPAR claims file. This is not as exact as detailed cost accounting from the hospital's internal cost accounting system, but the validity can be easily assessed against the numbers reported here. The total hospital costs could be measured against internal estimates if available.

Reviewing hospital A's initial profile suggests that there are three primary areas where its costs appear high relative to its competitor. First, nursing costs are $327 higher per case at hospital A than hospital B. Reviewing this variance tells us that $181 of the difference is related to a higher length of stay (LOS), 2.16 compared to 1.93. This value is derived by multiplying the cost per day ($1,696/2.16 or $785.19 times the LOS difference of .23 days). The remaining variance of $146 ($327 less $181) is attributed to a higher nursing cost per patient day, $785.19 at Hospital A compared to $709.33 ($1,369/1.93).

Second, operating room costs were $1,890 higher at hospital A than at hospital B. Using departmental costs for hospital A and hospital B taken from their 2017 Medicare Cost reports and applying estimates of equivalent units of procedures provided at both hospitals, we determined that hospital A's OR cost per unit was 62% higher than hospital B's and well above U.S. averages.

This finding is corroborated by the data in the MS-DRG 470 cost comparison, which shows costs are 64% higher at hospital A than hospital B, suggesting that the cost variance is exclusively related to higher unit costs not greater intensity. Finally, pharmacy costs are $733 higher at hospital A than hospital B. While this area is harder to assess than others, we did determine that on a cost per Equivalent Discharge basis, pharmacy costs were 74% higher at hospital A than hospital B and 70% above U.S. averages.

To close the loop on this assessment, hospital A can now review specific physician costs using their internal reporting systems to assess variances and determine if treatment protocols could be modified to reduce costs without impacting patient quality. In a cost comparison for six physicians, the most easily observable fact is the first four physicians have significantly higher LOS and cost relative to physicians E and F (see second exhibit on page 3).

Further review also showed significantly higher supply costs because of implant selection and usage. Most likely, hospital A has higher costs relative to hospital B in many other areas. We found that the Cost per Equivalent Discharge was $8,998 at hospital A, which was 23% higher than the value at B. This difference is almost identical to the 26% difference in costs for MS-DRG 470.

## Cost reduction actions

We believe that cost reduction will be the primary weapon for dealing with ever-tightening payments from major healthcare payers. Revenue management can be helpful, but its effects are short-term and limited. Reductions in cost result from actions taken in two primary areas.

First, the utilization of services such as nursing days, lab tests and drugs can be reduced on a per-encounter basis. Second, the cost efficiency with which nursing care and other ancillary procedures are produced can be improved. The detailed charge code analysis presented in this paper can be a powerful tool to identify specific cost-reduction opportunities, which can lead to large and sustainable improvements. //

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