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value-based purchasing a preview of quality scoring and incentive payments

Findings of a recent study suggest that some types of hospitals participating in CMS's Value-Based Purchasing (VBP) program can expect to perform much better than other types.

AT A GLANCE

A study of the potential impact of the new Medicare Value-Based Purchasing program on various types of hospitals focused on three key considerations:

- > Hospitals' total performance scores under the program
- > The calculation of incentive payments
- > The program's likely economic impact

The new VBP program will become effective for Medicare inpatient prospective payment system (IPPS) discharges on Oct. 1, 2012. Under the VBP program, the Centers for Medicare & Medicaid Services (CMS) will adjust each hospital's inpatient payment according to its performance on a set of quality measurements.

For FY13, hospitals will be scored on 12 clinical process measures and nine measures of patient experience listed on CMS's Hospital Compare website (www.hospitalcompare.hhs.gov). Scores will be based on both performance during a measurement period and improvement above a baseline period. Scores for individual measures will be combined into a single total performance score (TPS) that indicates a hospital's demonstrated quality and determines incentive payments based on the level of that quality. Just as a hospital's case mix index became a meaningful indicator under diagnosis-related groups (DRGs), the TPS will become an important indicator under VBP.

The VBP program involves intricate measures of quality and a rather complicated process for determining the amount of each hospital's incentive payment.^a Beyond this process, three factors will be of primary concern for organizations participating in the program: TPSs, incentive payments, and economic impact.

Our study of these factors is intended to offer hospital finance leaders insight into what to expect during their first year under VBP, and to provide interesting observations about the characteristics of hospitals that perform best under the program. Such insights are needed because the final rule

a. For a description of the system, see Shoemaker, P., "What Value-Based Purchasing Means to Your Hospital," *hfm*, August 2011.

regarding VBP does not give hospitals the data they require to compare their TPS scores with those of other hospitals and does not equate TPSs with incentive payments.

TPSs

As noted previously, a hospital's TPS is determined according to certain clinical practices (i.e., process of care measures) and patient satisfaction surveys (i.e., patient experience measures), as measured during a recent performance period and compared with a prior baseline period. Hospitals are familiar with these measures because they have been part of CMS's hospital Inpatient Quality Reporting (IQR) program, which the agency introduced in FY05. Under IQR, hospitals self-report on prescribed measures, and the measures are published on the Hospital Compare website. The VBP uses these measures in calculating each hospital's overall TPS.

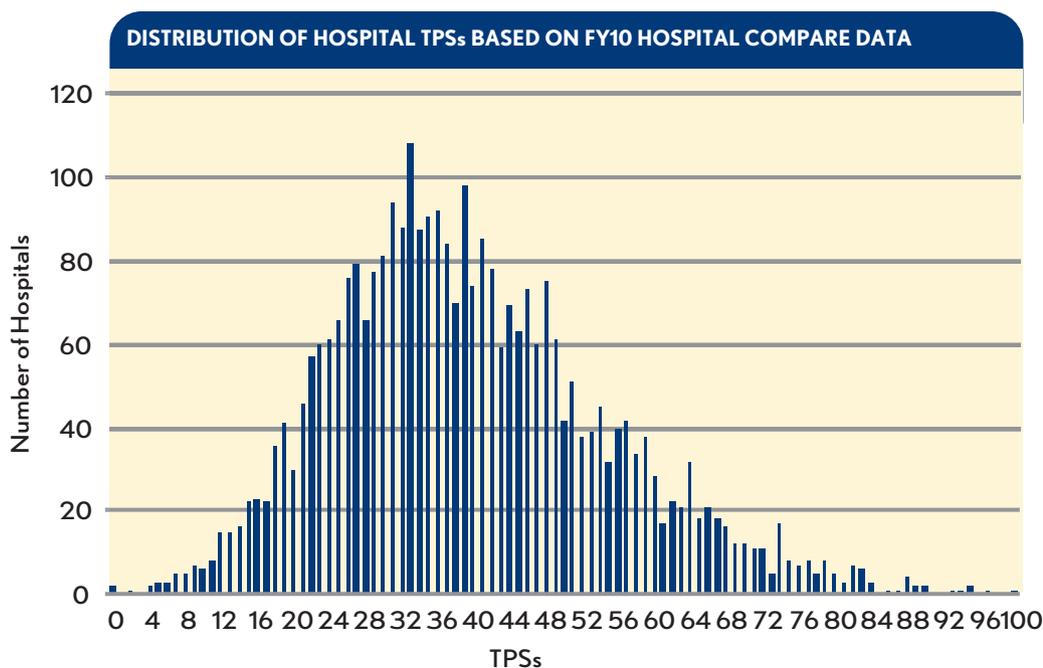
In selecting the measures to be used in the FY13 VBP, some measures reported on Hospital Compare were excluded because they have "topped out." In other words, there is no room for improvement for the vast majority of hospitals. (CMS designates a "topped out" measure when hospital performance at the 75th and 95th

percentiles is indistinguishable and the coefficient of variation is less than 0.10.)

CMS will likely use VBP to modify hospital performance in problematic areas where there are wide variations on important measures. TPSs should not be thought of as measures of overall hospital quality, but as indicators of performance for selected measures. For this reason, the VBP program will always show wide variation among hospitals despite any recent improvements.

For purposes of our study, a TPS was calculated for each hospital based on Hospital Compare measures for FY10. As seen in the exhibit below, there is a fairly normal distribution centered around a score of 37, with a small number of exceptional hospitals scoring above 80. The lowest hospital TPS is 0 and the highest TPS is 100, with a median score of 37. Any hospital wishing to compute its TPS on the basis of FY10 Hospital Compare data can use this information to compare its score with the scores of other hospitals for the period.

CMS plans to publish hospital TPSs on Hospital Compare for public scrutiny. Although specific plans are not yet known, hospitals will need to be



prepared to respond to any unfavorable comparisons and answer inquiries about their scores. It may not seem reasonable to gauge a hospital's commitment to quality on the basis of a TPS, but there will likely be a tendency for some to do so.

The principal aspect of the TPS is that it determines a hospital's incentive payments during a fiscal year on the basis of quality measures that CMS selected to modify hospital behavior. Hospitals should be diligent in following regulations over the coming years as quality measurements are changed and the withholding percentage increases. The percentage will gradually increase from 1.0 percent in FY13 to 2.0 percent in FY17.

Incentive Payments

The VBP program will be funded in FY13 by reducing the base operating DRG payment amount for each IPPS discharge by 1 percent. The VBP final rule estimates the total amount to be withheld and available for incentive payments will be \$850 million. This estimate is based on FY09 claims data, with a working definition of *base operating DRG payment* being "total payments using Medicare Part A claims data less estimates of outlier payments, indirect medical education payments, disproportionate share hospital payments, and low volume hospital adjustment payments."

The estimate we used for this study is \$861 million based on FY10 MedPAR claims data. The

About the Study

The Value Based Purchasing (VBP) program for FY13 was described in a final rule issued by the Centers for Medicare & Medicaid Services (CMS) on May 6, 2011. The rule also included economic analyses based on claims data for FY09. This study is based on that final rule but uses data for FY10, the most recent period now available. Quality measures for determining hospitals' total performance scores (TPSs) are drawn from publicly available data on CMS's Hospital Compare website. Incentive payments are calculated from publicly available Medicare claims data in the Medicare Provider Analysis and Review (MedPAR) database. The exhibit below displays the periods that will drive the program in FY13 and the most recent

corresponding data available for previewing its impact at this time.

In formulating the study, care was taken to include only the subsection (d) hospitals that will be subject to VBP. During its first year, the program applies only to inpatients paid under the inpatient prospective payment system (IPPS) and cared for by short-term acute care hospitals in the 50 states plus Washington, D.C. (Hospitals in Maryland, however, are currently included in the VBP program even though they are exempt from IPPS.) Critical access hospitals and specialty hospitals (e.g., psychiatric, rehabilitation, and children's hospitals) are excluded from the program. Inpatients not paid

REPORTING PERIODS AND STATISTICS FOR FY13 VBP AND CURRENTLY AVAILABLE DATA		
	VBP for FY13	This Study
Performance period	July 1, 2011–March 31, 2012	Oct. 1, 2009–Sept. 30, 2010
Baseline period	July 1, 2011–March 31, 2012	Oct. 1, 2008–Sept. 30, 2009
Number of hospitals	3,092	3,178
Withholding amount	\$850 million	\$861 million

1.3 percent difference appears reasonable due to updated payment rates and other factors between the two fiscal years. The final IPPS rule for FY10 estimated a 1.6 percent increase in average payment per discharge for all causes (e.g., case mix index and update factors).

Incentive payments for each discharge will be based on a hospital's TPS and will be calibrated to make total incentive payments nationally equal to the total amount withheld, resulting in a net budget-neutral impact. To achieve equality, CMS will use a linear exchange function to calculate a factor for calibrating incentive payments:

$$\text{Calibration factor} \times \text{Hospital TPS} = \text{Incentive payment rate}$$

$$\text{Incentive payment rate} \times \text{Base operating DRG}$$

$$\text{payment} = \text{Incentive payment}$$

$$\text{Sum of hospital incentive payments} = \text{Sum of hospital payment withholding}$$

To the extent possible, in our study, we make the same hospital exclusions and calculate the "base operating DRG payment" in the way described in the final rule. The linear exchange function ensures that incentive payments are directly related to the TPSs for all hospitals regardless of whether a TPS is high or low.

Applying this process to FY10 TPSs and base operating DRG payments, we calculated a calibration factor of 0.0002679. In other words, a TPS

under IPPS are also excluded (e.g., non-Medicare and Medicare Advantage)

To be eligible for incentive payments, a hospital must have a TPS score based on at least four clinical process measures plus patient experience measures based on at least 100 HCAHPS surveys. To the extent possible, this study applies these exclusions with quality measures obtained from Hospital Compare. Unfortunately, however, Hospital Compare identifies only hospitals with fewer than 300 surveys, so the hospitals with fewer than 100 surveys cannot be identified for exclusion. Further, it was not possible to exclude low-volume hospital adjustment payments due to limitations of the MedPAR data.

During its first year, the VBP program will be funded by withholding 1 percent of base operating DRG payments. These withholdings will then be redistributed among hospitals according to their TPS scores. Although "base operating DRG payments" is not defined in the final rule, it is thought to be DRG payment amounts less deductibles, coinsurance, outlier payments, DSH payments, and IME amounts. This appears to be the definition used in the final rule to determine economic impacts and is, therefore, the definition used in this study.

Because the VBP program is new, there were some problems in using currently available data to forecast its effect. For example, Hospital Compare performance data are currently reported on a rolling four-quarter basis, whereas the first year of the program has been constructed on a three-quarter basis. There are also inconsistencies between the precision of data now reported on Hospital Compare with the precision used in the VBP methodologies—although these differences could impact calculations for a particular hospital, they should not have a material effect on this analysis.

CMS has indicated that it plans to publish VBP results in a new section of its Hospital Compare website and to show measurements with more decimal places to facilitate analysis in the future. Such information would be published after the end of a performance period and after hospitals have had the opportunity to review their data for accuracy. In its final rule for VBP, CMS also indicates that it intends to use a full year as the performance period in the future. It should be possible, therefore, for hospitals and analysts to readily access compatible data after the program is implemented.

of 37 would result in an incentive payment of 0.99 percent of the base operating DRG payment for a discharge ($37 \times 0.0002679 = 0.00991$).

Although there are no fractional TPSs used in the VBP program, the theoretical “break-even” score would be 37.3. In other words, the break-even score is the theoretical point at which there would be a 1.00 percent incentive payment that would equal the 1.00 percent withholding amount. Higher scores will net a positive incentive payment, while lower scores will result in a loss.

The exhibit below illustrates these points by showing the linear relationship between TPSs and incentive payment percentages. It is drawn with its origin at -1.00 percent, which is the amount withheld to fund the VBP program.

Hospitals can use this information to estimate the percentage of incentive payment that might be expected for a particular TPS. It must be remembered, however, that when the VBP program is implemented for FY13, the calculation of incentive payment percentages will be different because the TPS scores and base operating DRG amounts for the performance period will be

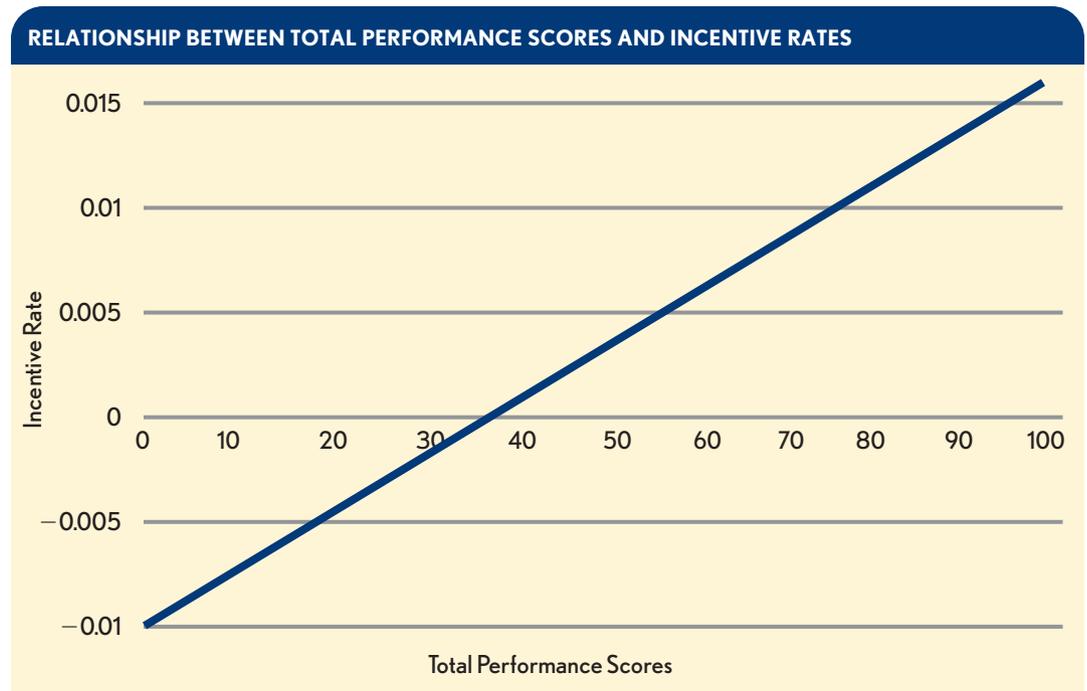
different from those for the periods we used in making preliminary estimates.

The actual process for paying incentives will be described in the final PPS rule for FY13. The final rule for the VBP program, however, suggests that the following will occur:

- > Hospitals will learn their incentive payment percentages from CMS at least 60 days prior to Oct. 1, 2012, through their QualityNet accounts.
- > The 1.00 percent withholding to fund VBP will be described in the final PPS rule for FY13.
- > Each IPPS discharge will be paid with a 1.00 percent withholding of the base operating DRG payment and the incentive payment percentage applied. Operationally, this would be effective for discharges on or after Oct. 1, 2012, but would not actually begin to be processed until sometime in January 2013.

Economic Impact

Once we determined a TPS and incentive payment for each hospital, we could begin to examine the economic impact among various categories of hospitals. In analyzing the economic impact, it was also possible to look separately at the domain scores for process of care measures versus those



TOTAL PERFORMANCE SCORES (TPS_s) AND DOMAIN SCORES BY BED SIZE

Bed Size	Number of Hospitals	Clinical Processes Domain Average	Patient Experience Domain Average	Average TPS	Average Incentive Rate Percentage
<50	450	45.2	56.3	47.9	0.225
50-99	598	41.1	40.7	40.7	0.105
100-149	576	40.8	32.5	38.0	0.022
150-249	677	41.9	30.0	38.1	0.031
250-399	507	41.8	28.1	37.7	-0.007
400-799	325	37.7	29.8	35.4	-0.038
>799	45	36.6	28.5	34.3	-0.106
Total	3,178				

for patient experience measures. For VBP in FY13, these two domains are to be scored separately, with 70 percent of the final TPS score being the process of care score and 30 percent being the patient experience score.

The final VBP rule based on FY09 data included economic impacts stratified by geographic region, urban/rural designation, number of beds, and Medicare utilization. Of these, the only differences that were remarkable were those among bed-size categories. The analysis showed that smaller hospitals tended to have higher incentive payment percentages than larger hospitals.

We repeated the economic analysis using FY10 data and found similar results. Only the analysis

by bed size was remarkable. Hospitals with fewer than 50 beds averaged incentive rates of 0.225 percent versus -0.106 percent for hospitals with 800 beds or more. These rates are net of the 1.0 percent withholding amount.

In taking a more detailed look at TPSs, we found that both clinical process of care measures and patient experience measures are relative to bed size. This finding suggests that neither domain is the predominant reason for the relationship between size and incentive rate. Does the fact that smaller hospitals have fewer processes of care being measured make their scores higher? Are patients less satisfied with their experiences in larger, more complex settings? Whatever the reasons, there are stark differences in quality measurements relative to bed size.

TOTAL PERFORMANCE SCORES (TPS_s) AND DOMAIN SCORES BY TYPE OF HOSPITAL OWNERSHIP

Type of Ownership	Number of Hospitals	Clinical Processes Domain Average	Patient Experience Domain Average	Average TPS	Average Incentive Rate Percentage
For-profit (FAH members)	413	51.6	33.6	46.2	0.238
For-profit (other)	371	48.5	48.5	46.8	0.162
Not-for-profit (religious)	474	40.1	33.8	38.2	-0.005
Not-for-profit (other)	1,437	39.2	33.9	37.5	-0.039
Government	483	35.7	36.3	35.7	-0.094
Total	3,178				

We also explored variations in economic impact among other categories of hospitals. It was extremely interesting to note variations among type of hospital ownership. For-profit hospitals showed the highest performance scores and therefore the highest average incentive rate. The average incentive rate among for-profit hospitals was 0.238 percent, whereas all other types of ownership showed negative incentive rates (i.e., less than the 1 percent withheld to fund the VBP program).

The findings for types of ownership were not anticipated. Because hospital ownership was originally determined from a hospital's most recent Medicare cost report, the for-profit category was modified to make certain that the cost report categories were reliable. The Federation of American Hospitals (FAH) is the national representative of investor-owned or managed community hospitals and health systems throughout the United States. We looked at its member hospitals as identified on the organization's website (www.FAH.org) as a distinct category, with all other for-profit hospitals (as identified by their cost reports) in a separate category labeled "for-profit (other)." This approach showed that both categories had similar characteristics and helped verify that hospitals were being categorized reliably.

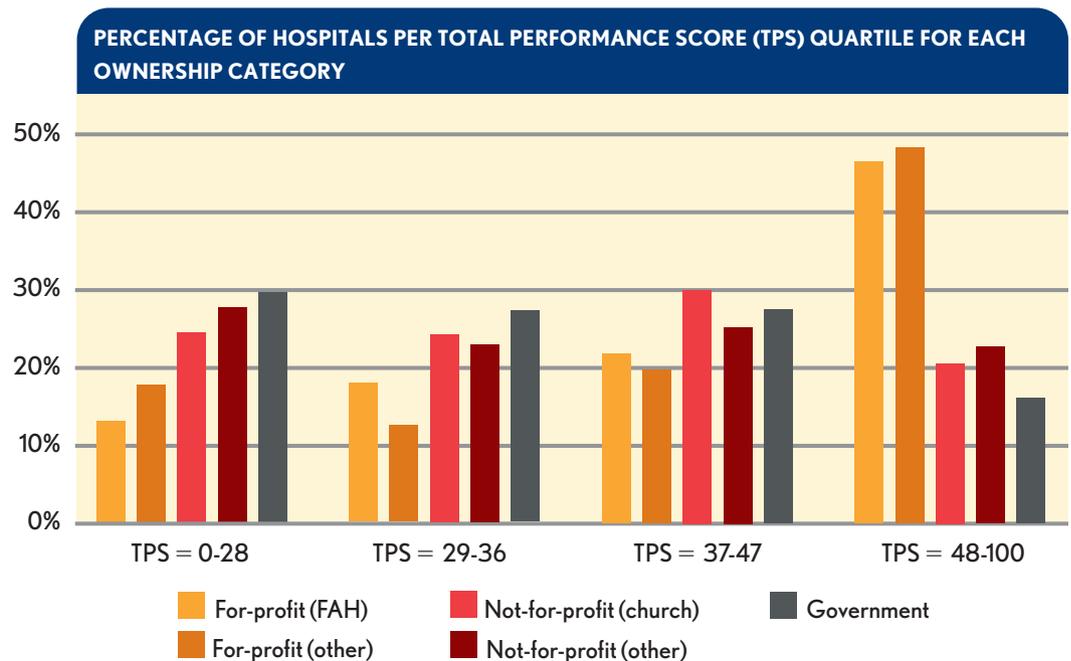
Even though there is sufficient volume in each category to compare averages, it is also helpful to examine tendencies that aren't readily seen. The exhibit below displays TPSs by quartile for each ownership category. Quartiles are based on total hospitals ranked by TPS score (i.e., 0-28, 29-36, 37-47, and 48-100). The exhibit shows the percentage of hospitals in each quartile for each category of ownership. For example, it shows that more than 45 percent of the FAH and other for-profit hospitals appear in the fourth quartile with TPSs of 48 or higher.

The data further indicate strong differences among for-profit, not-for-profit, and government hospitals relative to the process of care domain, and less compelling differences relative to the patient experience domain.

Although the differences in payment for the identified groups may not seem significant, facilities receiving a TPS of 0 will have a 1.0 percent reduction in revenue. Similarly, hospitals achieving a TPS grade of 100 will receive a 1.6 percent bonus. In future years, these extremes will double.

Summary

The VBP program is an unprecedented change in the way Medicare pays hospitals for their services.



Beginning in FY13, the program will begin rewarding hospitals for improving and maintaining high levels of measurable quality. Over subsequent years, hospitals can expect quality measurements to change as Medicare seeks to improve readmission rates, mortality measures, the incidence of hospital-acquired complications, and other patient safety indicators. These measures not only will drive incentive payments under the VBP program, but also will be publicly disclosed through the Hospital Compare website. CMS plans to publish each hospital's condition-specific score, domain-specific score, and TPS.

Hospitals will need to be diligent as measures change and make certain that the measures are incorporated into their internal quality measurement programs.

Hospital senior finance leaders should continually monitor their organizations' performance for VBP measures and effectively address any undesirable variations.

Hospitals may also discover that insurers other than Medicare want to adopt forms of VBP. Once Medicare VBP is established, it will be easy for commercial insurance companies, Medicaid programs, and others to adopt the concept.

Hospital financial leaders also should note that their organizations' scores in the patient experience domain include up to 20 consistency points that are significantly reduced for each Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) measure that is below the threshold. In other words, even if the total domain score is good, it could be better if even a single measure that could be improved is below the threshold. Individual

Measures Used in Determining Hospital Total Performance Score for FY13 Value-Based Purchasing

Clinical Process of Care Domain

- > Fibrinolytic therapy received within 30 minutes of arrival in the hospital
- > Primary PCI received within 90 minutes of arrival in the hospital
- > Discharge instructions
- > Blood cultures performed in the emergency department prior to initial antibiotic received in hospital
- > Initial antibiotic selection for community-acquired pneumonia in immunocompetent patient
- > Prophylactic antibiotic received within one hour prior to surgical incision
- > Prophylactic antibiotic selection for surgical patients
- > Prophylactic antibiotics discontinued within 24 hours after surgery
- > Cardiac surgery patients with controlled 6 a.m. postoperative serum glucose

- > Surgery patients with recommended venous thromboembolism prophylaxis ordered
- > Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours
- > Surgery patients on beta blocker prior to arrival who received beta blocker during perioperative period

Patient Experience of Care Domain

- > Nurses communicated well (Always)
- > Physicians communicated well (Always)
- > Help received quickly (Always)
- > Pain controlled well (Always)
- > Staff explained medicines (Always)
- > Room and bath kept clean (Always)
- > Area quiet at night (Always)
- > Given discharge instructions (Yes)
- > Overall hospital rating (High)
- > Would recommend hospital (Definitely)

The VBP program brings us to the threshold of a time when objective measures of quality become an important management measurement along with financial performance and other key indicators.

patient experience measures should therefore be closely monitored so that any problematic areas can be improved. For example, if discharge instructions are not being clearly communicated to patients, the hospital's current practices should be reconsidered, with controls to ensure compliance with this important responsibility.

Hospitals should also make certain that their clinical documentation captures full and accurate information about procedures that affect clinical process measures. For example, the administration of a prophylactic antibiotic within one hour prior to a surgical incision is such a measure. Unfortunately, the failure to document an important procedure properly can appear as damaging as an actual failure to perform the procedure.

Hospitals may also discover that insurers other than Medicare want to adopt forms of VBP. Once Medicare VBP is established, it will be easy for commercial insurance companies, Medicaid programs, and others to adopt the concept.

Further, hospitals will need to be prepared to explain their quality measurements to all public interests, such as patients, physicians, and insurers. Hospitals that are most successful in achieving high levels of quality will also have the opportunity to promote their accomplishments to public interests. VBP is a program under which "average" hospitals do not fare well. Hospitals must strive for exceptional levels of performance in the public eye and in consideration of incentive payments.

It may be that the evolution of measurements and public accountability alone would bring about continuous improvement. To the extent that financial incentives are also effective, the VBP program will become even more influential as withholding amounts increase.

We designed this study to help hospitals better understand the dynamics of VBP as they plan for operations under the program. Hospitals that anticipate an undesirable impact from VBP, based on the findings of this study, should begin immediately to formulate plans for improvement.

The study findings regarding the characteristics of hospitals that are projected to perform best under VBP are particularly noteworthy. Hospitals may wish to use some of these findings in formulating their own strategies. For example, larger hospitals may want to concentrate on reasons why patients seem to have better experiences of care in smaller hospitals. And not-for-profit hospitals may want to consider possible reasons management practices in for-profit hospitals seem to foster higher-quality clinical processes of care.

Everyone who works in health care wants to ensure high levels of quality. The VBP program brings us to the threshold of a time when objective measures of quality become an important management measurement along with financial performance and other key indicators. ●

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