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PATIENT SAFETY & QUALITY HEALTHCARE

**VALUE-BASED  
PURCHASING**

# Outperform the Competition: Hospital Value-Based Purchasing

► By Jeffrey Robbins



**C**ompetition to capture the highest incentive payments from the Medicare Hospital Value-Based Purchasing (VBP) Program is going to be very tight. “Even if you are above the 90th percentile, you could still have a very poor score and leave money on the table,” said Tami Lewis in a recent *Modern Healthcare* article (McKinney, 2012). As director of service excellence at Robinson Memorial Hospital in Ravenna, Ohio, she is among many hospital quality administrators who are looking at competition where several tenths of a point can represent a forfeit of hundreds of thousands of dollars in federal reimbursements. But there’s a way to gain an edge. All other factors being equal, effective use of information technology (IT) is likely to determine which hospitals perform best in the VBP Program over the upcoming years.

### GOING FOR THE GOLD

For FY 2013, the contest is, in fact, over. How well hospitals performed from July 1, 2011, to March 31, 2012, will impact their Medicare reimbursements next fiscal year. For discharges on or after October 1, 2012, CMS will withhold 1% of base Diagnosis Related Group (DRG) Medicare payments and simultaneously give hospitals the opportunity to gain some, all, or more of it back with value-based incentive payments. The VBP final rule estimates the total amount to be withheld and available for incentive payments in FY 2013 to be \$850 million for about 4,000 acute care hospitals paid under the Medicare Inpatient Prospective Payment System [IPPS]. Each participating hospital will receive an estimate of its value-based incentive payment at least 60 days before October 1, 2012; notification of the official payment for each FY 2013 discharge arrives on November 1 (*Federal Register*, May 6, 2011).

Exactly how much a particular hospital gains back depends upon its performance scores. Along with other reforms to emerge from the Affordable Care Act, the Hospital VBP Program aims to improve care and reduce costs by changing how Medicare pays for services. Instead of passively doling out payments for volume as under the current fee-for-service model, Medicare will actively “purchase” care by linking a portion of DRG payments to overall hospital performance on a set of quality measures for inpatient acute care. In this way, the VBP program makes hospitals accountable to some degree for both the quality and cost of services delivered to patients, and reduces their opportunity to profit from medical complications and errors.

Studies indicate that one in seven Medicare patients experiences an adverse event while in the hospital, and one in three Medicare beneficiaries experiences hospital readmission within a month of discharge (OIG, 2010). Under the current system, if a patient develops a preventable complication (such as an infection) during hospitalization, a hospital could be eligible to receive a higher DRG payment along with payments for follow-up care along. In 2009, Medicare spent an

estimated \$4.4 billion in additional care for patients harmed in the hospital, and \$26 billion in readmission costs (OIG, 2010).

### THE GROUND RULES – DEMONSTRATING SUSTAINED IMPROVEMENT

Scoring hospitals on both achievement and improvement, CMS has hospitals competing with their own historical track record as well as with each other. A hospital earns improvement points based on its performance in the CMS Inpatient Quality Reporting Program (IQR) during the designated baseline period (July 1, 2009, through March 31, 2010) and achievement points based on how it compares to all hospitals during the performance period. Performance scores are pitted against benchmarks and thresholds to derive achievement and improvement scores (Figure 1). For FY 2013, the VBP program includes 2 domains: clinical process of care, covering 12 measures; and patient experience of care, covering one measure (derived from 9 dimensions). CMS aggregates the scores and weights the two domains, 70% for process and 30% for patient experience, to arrive at a total performance score (TPS) that is used to determine incentive payments. The hospital’s TPS score will be posted on CMS Hospital Compare, along with its IQR scores, making transparency another inducement to perform well in the VBP program.

As with any contest, some VBP participants will come out way ahead, and others will not fare well. Hospitals in the top 50th percentile should realize a net increase in payments, while those in the lower half should anticipate a net decrease. CMS expects that incentive payments will range from 0.0236% of the amount withheld for the lowest-scoring hospital, to 1.817% for the highest-scoring hospital. Over the next 5 years, hospitals will increasingly feel the financial impact of their scores as CMS incrementally raises the stakes. The percent to be withheld and available for incentive payments will increase by .25% each year until it hits 2% in FY 2017, representing an estimated total of \$2 billion. In FY 2013, the average VBP revenue risk has been estimated at \$888,812 and the median risk at \$250,415 per hospital; spanning 5 years, estimates are at \$6.67 million and \$1.88 million, respectively (Davis, 2010).

The top-performing hospitals in FY 2013 are likely to have higher achievement relative to improvement scores since achievement trumps improvement in the VBP program. While CMS uses the higher of the two scores to arrive at the TPS, the maximum number of points a hospital can receive on any given measure for improvement is 9, compared to 10 for achievement. Furthermore, if a hospital exceeds the performance benchmark, it receives the highest score of 10, and the improvement score is subsequently irrelevant. But most hospitals should expect to see their improvement scores used to calculate the TPS. Unlike the AMI example (Figure 1), the other clinical process benchmarks and thresholds are very high, above 99% and 90% respectively, making it difficult to consistently perform well in achievement. CMS requires a minimum of only 10 cases for each clinical process measure.





**Figure 1. Measure AMI-7a Fibrinolytic Therapy**  
Hospital X is awarded 7 points for improvement and 6 points for achievement. The improvement score will therefore be used to calculate Hospital X's TPS.

Therefore, failure to meet protocol in even a few cases can lower scores significantly, and subsequently lower the amount of the payment incentive.

In the long run, hospitals that demonstrate sustained improvement in the quality of patient care should come out as the high performers. Demonstrating sustained improvement with established process measures is not enough to succeed in the VBP program. When all hospitals do perform consistently well on a particular measure, CMS expects to retire it. This type of measure, referred to as “topped out,” underscores the competitive nature of the Hospital VBP Program. The big winners will be hospitals that are flexible, quick to adapt to changing practices and protocols. The VBP measures will evolve over time, making them somewhat of a moving target. For FY 2014, CMS will add a new clinical process-of-care measure, SCIP-Inf-9, which tracks postoperative urinary catheter removal.

More significantly, CMS plans to introduce new domains focused on results to further draw out and reward hospitals that are truly delivering high-quality care. CMS expects to add VBP measures for improved patient outcomes, prevention of hospital-acquired conditions, and efficiency (Federal Register, 2010; Blum 2011). In FY 2014, the VBP program will add the “outcome” domain, which includes three new measures to cover mortality rates for heart failure, acute myocardial infarction heart failure, and pneumonia patients. Results of a study by the Yale School of Public

Health and other collaborators entitled “What Distinguishes Top-Performing Hospitals in Acute Myocardial Infarction Mortality Rates?” supports the approach of CMS. The study found that complying with evidence-based practices and protocols alone was not a key differentiator for achieving low mortality rates among the hospitals (Curry et al., 2011). Instead, the top performing hospitals were distinguished by an infrastructure that fully reinforces the delivery of high-quality care. Such infrastructures include the involvement of senior management to provide quality data and adequate resources; engaged physician leaders, empowered nursing staff, and involved pharmacies; strong communication and coordination; and the use of root-cause analysis to develop strategies for improvement (Curry et al., 2010). ■

**Jeffrey Robbins** is CEO of LiveData, and has served as its technology visionary since the company's founding in 1991. After LiveData's early successes in manufacturing data acquisition and delivery, he extended the company's technology to other industries by supporting a broad range of industry protocols and offering an open architecture solution for real-time data integration. He propelled LiveData into the healthcare market, winning two U.S. Army SBIR (Small Business Innovation Research) awards and joining CIMIT, the Center for the Integration of Medicine and Innovative Technology, where LiveData has led data integration for the Operating Room of the Future.

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## ADDITIONAL READING

Part II of this article, *How Innovative Technology Helps Capture the Highest Incentive Payments*, is available at <http://psqh.com/white-papers.html#outperform>.

# Outperform the Competition: Hospital Value-Based Purchasing

## Part II: How Innovative Technology Helps Capture the Highest Incentive Payments

► By Jeffrey Robbins



Part I of this article, “Outperform the Competition: Hospital Value-Based Purchasing” appears in the July/August issue of *Patient Safety & Quality Healthcare* and may be accessed at <http://psqh.com/july-august-2012/1340-outperform-the-competition-hospital-value-based-purchasing.html>



Appropriate use of technology makes a significant impact on the infrastructure of the high-performance hospital and can reinforce the hospital's capacity to sustain improvement and rise above its competitors in the Value-Based Purchasing (VBP) Program. In the high-performing hospitals of a Yale study, "staff repeatedly voiced a shared commitment to ensure effective communication and coordinated, seamless transitions in care, because they recognized their interdependencies" (Curry et al., 2011). Given the complexity of today's hospitals, linking interdependencies requires good information flow, which in turn typically requires strong IT support. Not surprisingly, inefficient information technology was among the poor structural supports that constrained information flow in the study's low-performing hospitals. In the high-performing hospitals, use of IT to support hospital practices and protocols focused on improving AMI care was a "key theme" (Curry et al., 2011). CMS stresses the importance of aligning electronic health record (EHR) implementation with the VBP Program, encouraging hospitals to develop EHR systems that conform to meaningful use standards, capture quality data, and ideally "provide point of care decision support that promotes optimal levels of clinical performance" (Federal Register, 2011).

However, as national health IT coordinator Dr. Farzad Mostashari points out, "We need to do a lot more than have EHRs in place in order to get true care coordination" (Mosquera, 2012). CMS expects that the impetus to improve the quality of care will also drive innovation. LiveData, Inc., headquartered in Cambridge, Massachusetts, and specializing in real-time data integration and display, illustrates one example of innovation dedicated to coordinating care for better outcomes and lower costs. The company has developed a set of cutting-edge software tools for the perioperative space that acts as a performance management overlay on the EHR.

**"We need to do a lot more than have EHRs in place in order to get true care coordination."**

— Dr. Farzad Mostashari (Mosquera, 2012)



OR-Dashboard, the company's flagship product, is in the operating rooms of hospitals with a cultural organization aligned with that of the high-performance hospitals described in the Yale study. Vendor neutral and interoperable with any EHR system or medical device, the system synchronizes information from diverse sources with OR workflow and brings it all together on a large, easy-to-read display to promote good team communication, situational awareness, and compliance with patient safety mandates.

OR-Dashboard quickly assimilates new processes and protocols into hospital workflow, while assisting with documentation. Reminders and warnings for timely administration of prophylactic antibiotic are displayed to everyone in the OR. An electronic checklist method included with the system, Active Time Out (ATO), automatically displays the Time Out and other parts of the Surgical Safety Checklist when appropriate (Figure 1). ATO includes all relevant patient and case-specific information with each checklist item, and comes with an interactive clicker. These features allow the circulating nurse to review items and record responses at the point of care without interruption, alongside the rest of the team. All items are automatically time-stamped and fed back into the EHR. LiveData quality and efficiency reports provide performance feedback, which is critical for enabling hospitals to continually make process improvements, such as retraining noncompliant staff and ensuring checklists are performed at the right time.

While ATO (Figure 1) gives opportunity to confirm prophylactic antibiotic administration, the activity itself should be performed and documented earlier in the surgical process, before the patient enters the operating room. This SCIP protocol, along with 11 other VBP Clinical Process measures, point to the high level of interdependencies among caregivers and units in the surgical suite. To link together

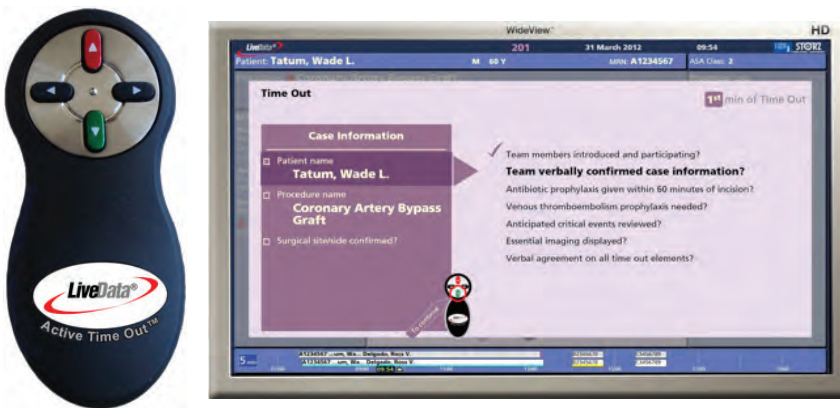


Figure 1. The LiveData Clicker (left) and an ATO checklist item (right). Using the clicker, the circulating nurse moves through the checklist – selecting, confirming, and documenting responses.





Figure 2: The PreOp Wall Display.

the activities of all stakeholders in the surgical process—surgeons, nurses, anesthesiologists, OR administrators, compliance officers, pathologists, radiologists, phleboto- mists, and other technicians—LiveData is currently installing a comprehensive perioperative workflow management system at a premier military hospital. “PeriOp Manager” coordinates patient care, safety initiatives, and resource utilization, providing caregivers and administrators with intuitive displays, real-time notifications, and performance analytics. The system automates the flow of information throughout the surgical suite via large displays in the perioperative (Figure 2) and family waiting (Figure 3, p. 4) areas; a large OR Schedule Board in key surgical units; and station displays for desktop and bedside computers, iPads, and other systems. Web native, PeriOp Manager also provides real-time status alerts on cell phones, pagers, and other mobile devices.

Caregivers use PeriOp Manager to manage and assume accountability for their activities; and administrators, to gain real-time insight as to where and when workflow bottlenecks are liable to occur. The system automates VBP-related processes on a daily basis, aggregating patient candidates for VBP core measures with their assigned caregivers. Aligned with the OR schedule in real-time, PeriOp Manager automatically sends reminders about VBP-related activities to the appropriate people at the right time throughout the day. The PreOp Wall Display (Figure 2) serves as a dynamic checklist, providing up-to-the-second information on OR room readiness and essential patient care milestones. Has prophylactic antibiotic been administered to the patient? When? Is the OR running late? How late? For additional information on the procedure and delays, caregivers can check the OR Schedule Board. Those caring for patients in the bays can check for scheduling and milestone updates from bedside computers.

Achieving consistency with VBP measures, which is key to performing well in the program, requires continual monitoring and measuring of related activities. The willingness and capacity to carry out root cause analysis was shown to be integral to the success of high performing hospitals in the Yale study on AMI mortality rates (Curry et al., 2011). Root cause analysis reinforces individual accountability, without which improvement is slow if not impossible. With reports that include a wide range of variables, PeriOp Manager delivers the feedback hospitals need to improve both quality and efficiency and to sustain improvement. Along with other processes, such as OR throughput, hospitals can review and troubleshoot VBP activities from a number of angles. Have delays in surgery repeatedly thwarted SCIP compliance? Does the hospital remain at 97% compliance for a particular VBP measure, rather than achieving the goal of 99.8%? Is non-compliance due to one or two outliers? If so, OR manag-



Family Waiting Area							10:54 AM						
Patient Id	Surgeon	PreOp	Surgery	PostOp	Progress	Notes	Patient Id	Surgeon	PreOp	Surgery	PostOp	Progress	Notes
123	Dr. Reed	✓	●		In Surgery	Call X4732	A46	Dr. Bliss	●			In PreOp	
A02	Dr. Bayne-Jon	✓	✓	✓	Discharged	Home @ 10:02am	A59	Dr. Martin		●		In Surgery	Further tests needed
A07	Dr. Fox	✓	✓	●	In PostOp		A61	Dr. Lyster	✓	✓	●	In PostOp	
A12	Dr. Moncrief	✓	✓	●	In PostOp		A75	Dr. DeWitt	✓	✓	●	In PostOp	See nurse for further...
A22	Dr. Tripler		✓	●	In PostOp								
A25	Dr. Kimbrough	✓	●		In Surgery								
A32	Dr. McDonald		●		In Surgery								
A33	Dr. Evans	✓	●		In Surgery								
A34	Dr. Womack	✓	✓	●	In PostOp								
A38	Dr. Blanchfield	✓	✓	●	In PostOp								
A39	Dr. Ireland	✓	✓	●	In PostOp								
A42	Dr. Ireland	✓	✓	●	In PostOp								

Figure 3: Family waiting areas.

ers and compliance officers can set up real-time notifications with the LiveData system to monitor these outliers, SCIP compliance, and/or delayed surgeries.

**CONCLUSION**

While OR-Dashboard and PeriOp Manager assimilate VBP Clinical Process measures into the perioperative process, protocol compliance is only one aspect of their mission: empower surgical suites to deliver high quality care at a lower cost. The LiveData system creates an optimal care environment from pre-surgery assessment to discharge for patients and staff alike. It is an environment where efficiency leads to better care, and good care to greater efficiency. Such a perioperative suite—where surgeries start on time, where caregivers readily have the information they need in order to work well, and where families obtain continual updates on their loved ones for some peace of mind—offers patients a positive experience. How patients feel about their hospital care will be increasingly important for VBP rankings.

The objective of CMS for VBP and related programs “is to move as quickly as possible to the use of primarily outcome and patient experience of care measures” (Federal Register, 2011). Hospitals that have aligned their people, processes, and systems through innovative use of technology should come out ahead in the VBP Program as it unfolds over the upcoming years. |

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