RUPRI Health Panel
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Rural Policy Research Institute Health Panel Response to

CMS' *Report to Congress:*

Plan to Implement a Medicare Hospital

Value-Based Purchasing Program

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RUPRI Health Panel

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Introduction

Comprehensive quality improvement programs are an important advance in US health care policy. Patients deserve to be safe in our nation's hospitals and should demand that their health care providers place quality care above all other priorities. Quality improvement should be of critical strategic importance to hospitals. Yet, hospital-based quality improvement efforts may be costly and can negatively impact hospital profitability. This financial reality is unacceptable in a health care system that strives to be safe, effective, patient-centered, timely, efficient, and equitable. Therefore, the Rural Policy Research Institute (RUPRI) Health Panel (Panel) strongly supports the Centers for Medicare and Medicaid Services' (CMS') exploration of payment alternatives designed to improve the quality of hospital care—including value-based purchasing (VBP).

CMS Goals for Value-Based Purchasing Initiatives

- Improve clinical quality
- Address problems of underuse, overuse, and misuse of services
- Encourage patient-centered care
- Reduce adverse events and improve patient safety
- Avoid unnecessary costs in the delivery of care
- Stimulate investments in structural components and the re-engineering of care processes system-wide
- Make performance results transparent to and useable by consumers
- Avoid creating additional disparities in health care and work to reduce existing disparities

Rural people represent approximately 25% of the US population. Rural hospitals regularly serve rural people and rural Medicare beneficiaries. Although rural/urban differences exist in patient demographics, hospital service mix, and patient volumes, hospital care is more similar across geographic boundaries and hospital size than dissimilar. In the interest of rural Medicare beneficiaries and the hospitals in which they receive care, the Panel strongly recommends that CMS include rural hospitals in VBP, quality improvement technical assistance, and other quality improvement programs. Although the Panel supports many proposals integral to

Throughout this document, the term "rural hospital" is assumed to include all small (fewer than 100 beds) rural acute care prospective payment hospitals and other hospitals that share their general characteristics, such as small urban hospitals and larger rural hospitals with low patient census. Although CMS does not address critical access hospitals in its report, many of the issues raised in this document may pertain to critical access hospitals.

CMS' *Plan to Implement a Medicare Hospital Value-Based Purchasing Program,* we also suggest several cautions regarding program design and implementation. The Panel emphasizes that despite some rural hospital differences from urban counterparts, we support development of payment and regulatory strategies that promote high quality hospital care. CMS should proceed to develop a final VBP plan that is sensitive to unique rural situations and carefully considers potential unintended program consequences.

From a rural perspective, it is striking that the CMS VBP plan includes only prospective payment system (PPS) hospitals and does not address cost-based reimbursed critical access hospitals (CAHs). Yet, nearly 1,300 CAHs across the country represent approximately one-quarter of all acute care hospitals and provide a significant proportion of rural hospital care. This document responds only to CMS' *Report to Congress: Plan to Implement a Medicare Hospital Value-Based Purchasing Program* published November 2007. In the next several months, the Panel plans to produce a companion document addressing the unique issues of designing and implementing VBP for CAHs.

Value-Based Purchasing Plan Components

Document Organization

In *Report to Congress: Plan to Implement a Medicare Hospital Value-Based Purchasing Program*, CMS expertly outlines the key issues surrounding VBP. Therefore, the Panel will follow the CMS report format, dividing our comments into seven VBP "components." We then note as bullets CMS actions designed to address each VBP component. RUPRI Panel comments follow each VBP component and associated CMS action bullets.

A Performance Assessment Model that is used to score a hospital's performance on a specific set of measures, generating a Total Performance Score for each hospital

- Combine discrete performance scores to develop a Total Performance Score for each hospital.
- Measure performance domains (clinical process-of-care, patient perspectives of care, and 30-day mortality outcomes).
- Measure an attainment or an improvement score.
- Develop an "exchange function" to align payment with policy goals.

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In theory, combining discrete scores to generate a "Total Performance Score" for each hospital (on which to base a performance incentive) makes sense. An incentive system should recognize the complexity and comprehensiveness of patient care. However, depending on the method used to "roll up" discrete performance scores, the statistical challenges of low rural volumes may be magnified. Potentially, performance measurement reliability may be only as good as the least reliable (e.g., lowest volume) discrete score. CMS notes that varying weights could be applied to each performance domain to determine Total Performance Score. CMS then tests

three different weights for performance in Appendix B. We recommend that higher weighting first be applied to those domains with greatest statistical reliability and then to those domains that best measure policy goals (validity). This approach will be sensitive to the service mix offered by rural hospitals.

Services provided by rural hospitals are often not as comprehensive as those provided by large urban hospitals. For example, many rural hospitals transfer acute myocardial infarction care patients. Thus, measuring rural inpatient acute myocardial infarction care is problematic. On the other hand, nearly all rural hospitals care for acute myocardial infarction patients in the Emergency Room. In this case, the proper measure should be emergency care, not inpatient care. Additionally, the National Quality Forum and others are adopting patient Emergency Department measures, such as acute myocardial infarction care and patient transfer care, that are very relevant to rural settings. Thus, when assessing rural hospitals, the clinical processes of care measured under VBP should expand beyond pure inpatient measures and must be those typically delivered by rural hospitals.

In general, the patient perspective of care will be similar for rural and urban. One caveat to consider is that rural patients should be queried as to whether they would recommend the rural facility *only for services provided by that facility*—not for all care. Rural hospitals do not provide all levels of hospital care and should not be expected (by patients in this case) to do so.

Thirty-day mortality outcomes are statistically problematic due to variables outside of hospital control that influence mortality. For example, recommended post-hospitalization care that is inaccessible in rural areas may increase 30-day mortality. An accurate risk-adjustment methodology for mortality is difficult to design, and low mortality numbers make statistical reliability difficult. Although mortality is a critically important outcome, we recommend great caution before applying mortality outcomes in a VBP program, especially to rural hospital performance.

The use of performance benchmarks to measure compliance with health care quality goals is widespread. Many rural hospitals are eager to know how they compare to similar hospitals or competitors. Comparisons to benchmarks frequently stimulate hospital process improvements. Additionally, hospitals can use variance from benchmark performance as a “signal check”—

highlighting processes or operations requiring further study. However, the use of benchmarks suffers from at least two potential flaws. First, benchmarks derived from current hospital performance may represent suboptimal performances, or alternately, unrealistic expectations. For example, recent interventions to reduce ventilator-associated pneumonia quickly lowered pneumonia rates well below benchmark, making the benchmark nearly irrelevant. In contrast, a hospital may not be able to achieve benchmark diabetic control rates if the local culture is predisposed toward certain dietary practices. Secondly, hospital performance compared to benchmark requires accurate risk-adjustment before making hospital comparisons that are fair. Variables that impact clinical performance, especially mortality and other clinical outcome measures, are numerous and challenging to control statistically. Thus, we recommend that the VBP plan utilize benchmarks as minimum performance thresholds (for example), but emphasize *improvement* more than performance compared to benchmark. An incentive structure should consider the following characteristics:

- Bonus eligibility should be based on performance above a minimal threshold.

- Bonus should be based primarily on improvement from baseline.

- Bonus should be “progressive”; i.e., the increment of change required to qualify for a bonus becomes smaller as performance increases (recognizing that performance improvement becomes more difficult as the performance level increases).

- The system should recognize that quality improvement infrastructure support may be proportionally more costly in rural hospitals due to high fixed costs (as a percent of all costs) and to low volumes. Thus, bonus payments should recognize the relative weight of quality improvement infrastructure expense.

- Performance benchmarks or targets should be removed from measurement and reporting only if evidence exists that all hospitals, regardless of size or geographic location, have altered processes such that the expected performance occurs all the time, every time. For example, one measure already removed from the data submission requirement is oxygen saturation monitoring during pneumonia evaluation because virtually all hospitals have updated both technology

and clinical processes to assess oxygen saturation for all respiratory patients. However, other pneumonia process of care measures remain important indices of care quality and should not be discontinued.

Translation of the VBP Total Performance Score into an incentive payment

- Specify an exchange function used to translate the VBP Total Performance Score into the percent of the VBP incentive payment earned and of the benchmark performance level for a hospital to obtain its full incentive amount.
- Identify the funding source for the incentive payments.
- Determine how to allocate the pool of funds that would be created because not all hospitals would earn the full incentive payment.

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Quality and efficiency criteria should consider that the rural beneficiary's episode of care often involves multiple providers along the continuum of care. An implicit goal of the VBP program is to encourage coordination across providers to improve care. However, at the current level of program maturity, there is risk that providers (especially of the same type) will work competitively, not collaboratively. For example, an acute myocardial infarction metric that measures the time between patient arrival at the rural Emergency Department and percutaneous catheterization intervention start at the referral center better assesses cardiac care than current provider-specific measures. Thus, we recommend that CMS develop and test a system to measure and reward quality when multiple providers care for a single patient during an episode of care.

Philosophically, we believe in spreading VBP payments broadly to support improvement for as many providers as possible, even if per-provider payments are less. The CMS experience with nearly universal core measure reporting following risk of market basket update loss suggests that small incentives can change hospital behavior. Furthermore, we recommend, as does MedPAC, that if VBP is budget-neutral, then CMS should return all

withheld funds in the form of rewards or quality improvement technical assistance.

In general, rural hospitals have smaller profit margins than urban hospitals. Therefore, any withhold for VBP may differentially impact rural hospitals more than urban. CMS should study the potential financial impact from VBP on rural hospitals to ensure that VBP does not unintentionally risk rural hospital service reductions or rural hospital closures that might negatively impact rural beneficiary access.

How the VBP withhold is calculated may be of great concern to rural hospitals. For example, if the withhold is based only on a hospital's DRG base rate, then a rural hospital's withhold will represent a greater portion of its total Medicare revenue than will a large urban hospital's in which total Medicare revenue includes higher percentages from capital costs, Disproportionate Share Hospital payment, Indirect Medical Education payment, and outlier payments for unusually costly cases. We recommend that VBP withholds be based on total Medicare revenue and that the withhold percentage be the same for rural and urban hospitals. In general, we support health care regionalization (for example, rural/urban or rural/rural hospital networks) that functions to improve the health of rural patients/communities and utilize health care resources efficiently. However, we are concerned that VBP "winners and losers" may foster inter-hospital competition that would discourage health care regionalization. CMS should actively encourage hospital *systems* and *collaborations* to participate in VBP.

The VBP program should not retain unearned VBP dollars at the end of each program year. One option would be for all funds to be distributed each year, meaning some hospitals would actually receive more than the withhold. However, if unearned VBP dollars remain, we prefer that CMS distribute the funds in their entirety for local/regional quality improvement since that is the goal of the VBP system. Hospitals would have to demonstrate, through application or some other means, their interest and commitment to quality improvement. Quality improvement technical assistance could be delivered by CMS' Quality Improvement Organizations (QIOs), Medicare Rural Hospital Flexibility grant programs (Flex Program), or private consulting services.

A measure development process, including selection criteria for choosing performance measures for the financial incentives, and candidate measures for VBP Program start.

- Require hospitals to report all measures within their service mix.
- Develop measure screening criteria.
- Consider small numbers issues.

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We agree with CMS' plan to build on standardized and consensus-based performance measures. Many, if not most, hospital measures are applicable to all acute care hospitals, regardless of size or geographic locale. However, not all measures may be applicable or appropriate for all providers. CMS should ensure that most performance measures have universal relevance, but also include measures that are appropriate for rural hospitals.

Measure selection should not only consider services frequently provided in rural hospitals, but should also be sensitive to unique rural situations so as to avoid placing a rural hospital at a disadvantage due to factors beyond its reasonable control. The most prevalent unique rural situation is low volumes. Thus, CMS must mandate cautious measure selection and sophisticated statistical analysis to ensure that low volumes do not significantly reduce measure reliability. This concern is greatest with low prevalence clinical outcomes such as mortality. Furthermore, to ensure measure validity, unique rural demographic characteristics may require risk-adjustment consideration to take into account factors such as health literacy and cultural barriers, hospitalized patient age, available technology, and geographic distance to referral centers.

CMS mentions "screening criteria" for performance measure inclusion in VBP, but details are not provided. Measure selection should be coordinated with current quality improvement organizations, as the National Quality Forum has done in its recent National Patient Safety Goals development. Additionally, CMS should support and coordinate measure selection and VBP analysis with input from rural health experts, including clinicians and rural health researchers. Creating and linking to a rural advisory commission

recommended by the IOM and RUPRI would provide a solid structure to develop and maintain expertise available for these functions.

We are very pleased to see CMS' discussion of "Small Numbers on Individual Performance Measures" in Appendix D. Thorough research, analysis, and vetting of the statistical methodology that considers small numbers (service volumes) is critical *prior to* VBP implementation. On the other hand, we do not feel that CMS should exclude rural hospitals from VBP simply because statistical analysis is more challenging. In the spirit of inter-hospital collaboration and health care regionalization, statistical shrinkage methods ("adjusting observed or raw scores by blending them with averages or expectations borrowed from other entities") may need reconsideration despite CMS' comment that "this method conflicts with the policy goals of VBP to provide reliable public reporting and financial incentives based on a hospital's individual performance." Interestingly, CMS does *not* explicitly list "financial incentives based on a hospital's individual performance" as a VBP policy goal. Yet, in the spirit of transparency, we recognize that individual hospital performance reporting is important. However, reporting invalid or unreliable data is counterproductive. Achieving statistical reliability may require new methods such as regional roll-ups and multi-year data aggregations.

A phased approach to transition from RHQDAPU to VBP

- Provide hospitals with adequate notice about measures and performance.
- Accrue baseline performance data on all VBP measures.
- Establish benchmarks and thresholds.
- Establish a three-year phase-in: 100% first year payment for reporting, 100% third year payment for performance.

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In the first two years of the CMS/Premier Hospital Quality Incentive Demonstration (HQID), rural hospitals outperformed urban hospitals. However, that result may not be repeatable in all situations.

We believe a VBP phase-in period is critical. Because of the potential impact of penalties for poor performance on hospitals with fragile or negative margins, VBP represents great risk for unintended consequences such as reduced access to health care for rural beneficiaries. In fact, CMS' suggested three-year phase-in may not be long enough to ensure that VBP statistical methodologies are valid/reliable and that all unintended consequences are apparent.

We agree that hospitals require adequate notice about new measures and performance requirements. CMS does not define "adequate notice," but one year seems reasonable. Baseline performance data accrual time periods may need to vary depending on the statistical methods used. If no unique methods are used to analyze small numbers, then a longer period to establish reliable baseline data is required. We have already commented about the risk of using benchmarks and thresholds. In general, we believe the VBP program focus (and financial incentives) should highlight hospital improvement rather than benchmarks and/or thresholds.

Rural hospitals also may require a longer VBP phase-in period because resources for VBP management may be less available. In addition, building the rural hospital database may take longer because of small numbers. Given VBP's potential impact on rural hospitals, the tools and resources necessary to collect, measure, report, and respond to quality data are mandatory. Therefore, CMS should adequately resource and/or coordinate with programs that provide important technical assistance to rural hospitals, e.g., QIOs and the Flex Program.

Redesigned data submission and validation infrastructure to support the VBP Program requirements

- Streamline and improve data submission process.
- Strengthen data validation.
- Define consequences for failing validation.
- Strengthen CMS' ability to compute stable performance rates.

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Hospitals require electronic infrastructure (computers, programs, and communication channels) to speed data collection and reporting. Rural hospitals may be disadvantaged in this regard without the resources to purchase, maintain, and utilize sophisticated health information technology (HIT) systems. CMS should recognize this rural/urban information technology (and communication) disparity and support programs for rural HIT development as a prerequisite for VBP. The Panel wishes to underscore that although HIT infrastructure is critically important to quality improvement, human resource infrastructure is equally, if not more, important. Complex HIT requires not only design and implementation expertise, but also ongoing and accessible support for human users. Local HIT support is often critically underdeveloped or unavailable in rural hospitals. More fundamentally, before HIT can support quality improvement, staff must be competent to code diagnoses and procedures correctly, abstract clinical records accurately, format input data properly, and design reports that provide insight, not just data. Furthermore, quality improvement is not simply about updating clinical processes with new data. Quality improvement involves relationships and change management—an intensely human undertaking.

CMS' concern about data submission timeliness and accuracy is very important. The current time lag between data reporting and performance feedback of nine months is unacceptable. Ideally, data reporting should be concurrent with real-time performance feedback and a disclaimer that feedback may require amendment. Health care providers need timely and accurate information to begin appropriate performance improvements. Admittedly, this may require that hospitals accept a validation appeals process that occurs post-payment.

As noted above, rural hospitals will need additional technical assistance and HIT support for gathering, coding, abstracting, collating, and reporting—previously provided by some QIOs. Hospitals also need real-time support. We applaud CMS' consideration of "user support." However, global experience with "user support" varies widely and is greatly dependent on the resources devoted to the service. Thus, we recommend significant investment in enhancing CMS' user support services with constant refinement and improvement.

The burden of quality improvement data collection is well-known and is particularly problematic for rural hospitals that do not possess adequate technology and the human resource infrastructure necessary for collecting, reporting, and improving quality performance against new standards. However, absence of resources common to large urban hospitals does not preclude quality and service status reporting. CMS should make every effort to make data reporting accessible to all levels of information technology and data reporting experience.

Rural hospitals are at risk for inaccurate data interpretation due to fewer reported cases. Statisticians should define and defend a utilization volume that can accurately (with validity and reliability) support a conclusion for payment and public reporting. Rural hospitals may require a longer data collection interval to achieve a data volume that returns reliable results.

Audits are an essential component of a VBP plan. However, the audits should not unduly burden hospitals, especially rural hospitals that receive nominal federal payment (due to low volumes) and where expertise to assist the audit may not be as available. We suggest a targeted annual audit of all outlier hospitals, an annual audit of a random sample of hospitals, and attestations by hospitals. Financial penalties are appropriate for intentionally fraudulent activity, not for unintentional errors.

We are pleased to see CMS's interest in stable performance rates. As we have noted, low volumes raise statistical reliability concerns. CMS implies that a threshold of 25 may be too small to stabilize performance rates. Increasing this number, although statistically necessary, may reduce rural hospitals' ability to participate. In some cases, small numbers may be related to low reporting (cases present but not reported). It is unclear if this issue is common in rural hospitals, but rural hospitals are often challenged to deliver the comprehensive coding and abstracting services that are prerequisite to complete reporting. Thus, for VBP to appropriately measure hospital process, technical assistance in data gathering and reporting is necessary; again, an important role that could be filled by QIOs and the Flex Program.

Enhancements to the Hospital Compare website to support expanded public reporting of performance results

- Address the needs of multiple stakeholder audiences.
- Employ display methods and/or decision supports that facilitate fair and accurate decision-making.
- Ensure consumer understanding of performance data displays.

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Public reporting systems (e.g., websites and print materials) should be developed in concert with, and beta-tested by, representative hospitals—including rural hospitals. Text, graphics, and other information presentations must be rigorously tested with relevant audiences (e.g., Medicare beneficiaries and other users) to ensure that the website presents information accurately. Website symbols used to signal inadequate data must be thoroughly described to ensure that they do not imply inadequate care or quality, and in fact should explicitly caution strongly against such interpretation.

Rapid increases in the number of measures included in web-based public information requires increased infrastructure support for hospitals, consumer agencies using the web page, and other agencies providing assistance (e.g., network hospitals, state agencies, QIOs) to rural hospitals.

CMS must accept accountability for statistical interpretation of small numbers. We suggest wording such as, “Due to fewer patients with this condition treated in this hospital, there is inadequate information to reliably report this hospital’s performance on this measure,” rather than, “Be careful when drawing conclusions for these hospitals because of the small number of patients treated.”

Publicly reported comparisons should be between hospitals with similar service volumes, not hospital size (e.g., hospital bed number or operating revenue). For example, inpatient measure comparisons should be based on inpatient days, not number of licensed hospital beds. Additionally, CMS should cite data sources and limitations that patients can easily understand.

CMS should encourage continued “harmonization” of quality improvement efforts across regulatory, accrediting, and advisory organizations. This harmonization should extend to public reporting. Although multiple demands for information are problematic for all providers, they are particularly problematic for those providers such as rural hospitals with limited resources.

Lastly, although not discussed by CMS, the Panel believes that demonstrable hospital quality will serve as an important strategy to recruit and retain health care professionals. In a future of projected widespread health care worker shortages, rural hospitals will successfully compete for outstanding employees by promoting a work environment committed to patient safety and quality improvement. Thus, the audience for accurate public reporting of rural hospital performance data is not just the “public,” but also potential hospital employees.

An approach to monitoring VBP impacts, including potential impacts of health disparities.

- Design an “active learning system.”
- Monitor the VBP program.
- Monitor the impact of value-based purchasing on disparities.
- Design elements of the VBP program that seek to reduce disparities.
- Include quality improvement support for hospitals.

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CMS’s commitment to fostering “an active learning system—within and across hospitals and at CMS—to promote breakthrough improvements in health care delivery” is extremely important and should be a primary program goal. CMS can promote this goal with clear and reinforced program expectations for shared learning across hospitals rather than an exclusive emphasis on individual hospital performance. CMS should continuously monitor how effectively the VBP program achieves system-wide learning.

CMS plans to monitor the VBP program in the following areas: programmatic impact, distribution of payments, implementation, spillover effects, best practices, unintended consequences, and budget neutrality. Such monitoring should of course quickly and efficiently drive program improvements. While all of the areas that CMS identifies for monitoring are important and a specific monitoring plan codified in regulation is recommended, additional comment is merited regarding "unintended consequences." The components of VBP, (e.g., pay-for-performance and public reporting to inform consumer choice), do not have a consistent, research-supported track record of increased quality and decreased cost. However, we nonetheless recommend that CMS should proceed with VBP and include rural hospitals, but always remain mindful that VBP is a social experiment with potential consequences that are as yet unknown. When volumes are low, unintended statistical artifacts are a great risk. When resources for quality improvement implementation are low, unintended clinical and financial consequences are a great risk. Both of these situations apply to rural hospitals. CMS must continuously evaluate the VBP program to ensure alignment with policy goals and identify unintended consequences for remediation.

CMS states, "The impact of VBP on disparities in health care is currently unknown. Some have raised concerns that VBP may worsen disparities as providers attempt to avoid patient populations, such as minority or poor patients who may be perceived as more difficult to treat, in an effort to improve their quality scores." CMS continues by citing the IOM's *Rewarding Provider Performance* report that notes, "[p]opulations most affected by disparities in health care are cared for disproportionately by undercapitalized providers who are likely to lack the resources necessary to invest in the infrastructure needed to facilitate participation in pay for performance." Detailing the risks of worsening racial, ethnic, and cultural disparities are beyond the scope of this report, but we do wish to highlight the risk of worsening geographic disparities and risks to undercapitalized providers. For the reasons cited previously, including low rural volumes, inadequate quality reporting and improvement infrastructure, and precarious financial stability, VBP could threaten the viability of some rural hospitals, resulting in reduced access to care and worsened Medicare beneficiary health outcomes. On the other hand, a VBP program designed to improve quality and efficiency even for underperforming providers committed to improvement (for example, through rewards based on performance improvement and significant funding

for technical assistance) may reduce disparities. CMS offers several VBP alternatives to reduce disparities, but does not address geographic disparity issues (other than through QIOs—see below). In addition, certain program design strategies already mentioned, such as an emphasis on improvement and strong support for technical assistance, will reduce the risk that disparities worsen under VBP. We strongly recommend that CMS, in concert with rural health care and health services research experts, study and recommend strategies to reduce geographic disparities continued or worsened by VBP.

We strongly support CMS' comment that "CMS could modify and expand the technical assistance provided to hospitals in improving quality of care and quality measurement through its 53 QIOs." CMS continues by stating, "An emphasis of the QIOs' role could be to provide technical assistance to small and rural hospitals that have more limited infrastructure to support quality improvement interventions, to hospitals with disparities in care among subgroups of patients, and to hospitals with poor performance scores." This focus on technical assistance mollifies some of our concerns about rural hospitals' lack of resources to implement VBP. However, CMS' 9th Scope of Work for QIOs markedly decreases the resources available for rural assistance. VBP success is contingent on adequate technical assistance, and we strongly recommend that CMS reconsider its decision to defund a rural priority for QIO work.

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