This study was conducted by staff at Social and Scientific Systems, Inc., under contract to NORC. The study was funded under a cooperative agreement with the Federal Office of Rural Health Policy (ORHP), Health Resources and Services Administration, DHHS, Grant Number 1U1CRH03715. The conclusions and opinions expressed in this report are the authors’ alone; no endorsement by NORC, ORHP, or other sources of information is intended or should be inferred.
The Walsh Center for Rural Health Analysis’ mission is to conduct timely policy analyses and research that address the needs of government policy makers, clinicians, and the public on issues that affect health care in rural America. The Walsh Center is part of the Public Health Research Department of NORC – a national organization for research at the University of Chicago – and its offices are located in Bethesda, Maryland. The Center is named in honor of William B. Walsh, M.D., whose lifelong mission was to bring health care to under-served and hard-to-reach populations. For more information about the Walsh Center and its publications, please contact:

Michael Meit
The Walsh Center for Rural Health Analysis
NORC at the University of Chicago
4350 East West Highway, Suite 800
Bethesda, Maryland 20814
301-634-9324
301-634-9301 (fax)

http://walshcenter.norc.org
EXECUTIVE SUMMARY

In 2000, CMS implemented a new congressionally mandated hospital outpatient prospective system (OPPS). The new system changed payments for hospital outpatient services from a retrospective cost basis to a prospective amount based on the median resource cost of groups of services expected to be provided. (See the highlighted box for more detail on how the outpatient prospective payment system works.) Because of the magnitude of the potential impact of this payment change on both rural hospitals and rural residents, small rural hospitals were granted protection from payment reductions in the transition to OPPS—referred to as ‘hold harmless’ provisions (described more fully below). Found to experience higher unit costs than urban or other rural hospitals, beginning in 2006 Sole community hospitals (SCH) located in rural areas were granted a 7.1 percent add-on to their outpatient reimbursement amount.

Given changes in rural hospital reimbursement for outpatient services, particularly as the hold-harmless protection is expected to phase out in December 2009, the purpose of this policy brief is to explore alternatives to the OPPS and how these options would affect rural hospitals.

Over the past two decades, advances in technology and changes in Medicare’s reimbursement methods have contributed to increases in the proportion of hospital services that are delivered on an outpatient basis. Hospital outpatient departments are a particularly important source of medical care in rural communities—serving as a gateway to more specialized inpatient services as well as providing essential primary and diagnostic care. Rural residents, facing a smaller range of options for ambulatory care than their urban-dwelling counterparts, may rely on the hospital for services not available elsewhere in the community. Because Medicare outpatient payments are an important source of revenue for some rural hospitals, Medicare policies that affect outpatient reimbursement may have a substantial impact on both the financial status of rural hospitals paid under the OPPS and on access to care in rural communities. As a proportion of total hospital revenue, rural outpatient departments account for just over half (52%) compared to 40% for urban hospital outpatient departments. Revenue from Medicare outpatient services constitutes 13.3% of rural hospital revenue vs. 8.5% for urban hospitals. For critical access hospitals, this proportion is even higher (21%). Accordingly, they continue to be excluded from the OPPS and reimbursed on the basis of cost. This paper focuses solely on rural PPS hospitals.

Overview of Medicare’s Hospital Outpatient Payment Policy

As required by the Balanced Budget Act of 1997, payment under the hospital outpatient prospective payment system (OPPS) was initiated on August 1, 2000 with a transitional period that was phased out for most hospitals by 2003. Payment is based on the Ambulatory Payment Classification (APC) system, which groups procedures that are similar clinically as well as in terms of resource consumption, packaging them with other services and supplies. Each APC is assigned a relative weight, reflecting the median cost of services in the APC relative to cost in other APCs. Relative weights are translated into payment amounts by using a conversion factor and adjusted for geographic differences. In addition to adjusting for geographic differences, other adjustments may be made for cases with exceptionally high costs (outlier payments) or for emerging technologies. More information on the OPPS may be found at http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_OPD.pdf.

1 Included in the Balanced Budget Act of 1997.


When the Centers for Medicare and Medicaid Services (CMS) first implemented OPPS all hospitals were entitled to transitional outpatient payments (TOPS)—financial adjustments designed to avoid sudden and large reductions in revenues. “Transitional corridor payments” provided a cushion to hospitals that received lower payments under the outpatient PPS than they would have under previous payment policy. TOPS adjustments were determined as a percentage of the difference between the OPPS amount and that which hospitals would have received under the previous cost-based system.

To lessen the financial impact that an immediate shift from a cost-based to a prospective payment system would have on these providers, Cancer and children’s hospitals were permanently “held harmless”, receiving the full difference between the cost-based and OPPS amount, where the pre-OPPS amount was estimated as the product of the provider’s costs and payment-to-cost ratio from the 1996 Medicare Cost Reports. Though initially set to expire in December 2003, rural hospitals with 100 or fewer beds received complete ‘hold harmless’ payments until 2005. P.L. 108-173, which amended the hold harmless provision to small rural hospitals until 2005 also included a provision to hold rural SCHs harmless. Successive legislation extended partial hold-harmless until December 2009 to small rural hospitals that were not SCHs.

Under the Medicare Modernization Act, Congress mandated that CMS conduct analyses to determine an appropriate adjustment for rural hospitals under the OPPS. CMS created a model to estimate costs per unit of service using Medicare claims. Findings from these analyses suggested that there was “no significant differences [in unit costs] between all small rural hospitals with 100 or fewer beds and urban hospitals or between other rural hospitals and urban hospitals.” Results, however, “found that rural SCHs demonstrated significantly higher cost per unit than urban hospitals after controlling for labor input prices, service-mix complexity, volume, facility size, and type of hospital.” Beginning in 2006, rural SCHs received an add-on of 7.1 percent above standard payment rates to account for their higher costs. This add-on payment to rural SCHs continues to be made today; in future years CMS may examine the add-on amount to determine whether it adequately reflects the costs that these hospitals incur.

### Are Rural Hospitals Potentially Vulnerable Under OPPS?

The hold- harmless provision included in the transition to OPPS was designed to address attributes of rural hospitals that might leave them financially vulnerable under the new payment system. The issue that has received the most attention is the fact that rural hospitals—because of their lower service volume—were less likely than urban hospitals to benefit from economies of scale; this would mean that their costs

---

4 For CY 2006, hospitals received 95 percent of the full hold-harmless amount; in 2007 this amount was reduced to 90 percent and in later years to 85 percent.
for providing the same services would be higher, even if they were operating in the same manner as their larger, urban counterparts. In addition, rural hospitals may be less able to invest in coding software or personnel that could increase their ability to maximize reimbursement. Specific design features of the OPPS also could adversely affect small rural hospitals. For example, some analysts have concluded that the use of the median cost of providing services in estimating Ambulatory Payment Classification Groups (APCs)–rather than the geometric mean--disproportionately weights high intensity services that are not typically rendered by rural providers. Although some believe that TOPS addressed this problem, these factors were thought to be responsible for the projected negative change in outpatient and total Medicare reimbursement that CMS calculated among rural hospitals with less than 100-beds.  

Despite these factors, questions about the necessity for continuing to hold rural hospitals harmless have been raised, since even small rural hospitals--those with fewer than 100 beds--were not found to experience statistically significant higher costs than their urban counterparts. Although analyses conducted by CMS did not find strong evidence that rural hospitals were more costly than urban hospitals, one exception was noted: rural SCHs were found to have higher unit costs than both urban and other rural hospitals.

Although CMS’ findings support the elimination of the rural hold-harmless provision, not all reimbursement experts have reached the same conclusion concerning the treatment of rural hospitals under the OPPS. In its 2006 Report to Congress, MedPAC emphasized the role that low volume, or the inability to achieve economies of scale, plays in rural hospitals’ poor performance under the OPPS. While CMS also posited, with the inception of the OPPS in 2000, that failure to achieve economies of scale could affect outpatient financial performance, MedPAC suggested that, rather than eliminating financial assistance to all rural hospitals, additional payments should be targeted to those providers that--due to factors beyond their control--are more costly and could most benefit from a payment increase. Based on this approach, MedPAC explored a change in outpatient payment policy that would provide a payment adjustment to low volume hospitals, regardless of whether they are rural or urban providers.

**Options for Reimbursement to Rural Outpatient Providers**

In this section, as well as in Table 1, we describe several options for modifying the OPPS to address rural hospitals’ financial concerns. As part of this discussion, some of the major impacts and considerations related to the potential policy change are noted. These outpatient reimbursement options include:

---

8 Analyses conducted by CMS found that outpatient volume has a statistically significant inverse relationship with unit outpatient costs.


10 Federal Register, July 25, 2005.
• Retaining the status quo, namely, creating a permanent partial hold-harmless provision for small rural hospitals and SCHs; Sole community hospitals with a rural designation would continue to receive an add-on payment;

• Adjustments to the structure of the payment system including either (a) a low-volume adjustment, (b) a population density adjustment, (c) a service mix adjustment, (d) using geometric mean rather than median to estimate relative costs, or (e) adjustments for coding errors; and

• A major refinement to the OPPS model such as global budgeting.

These options are not intended to be exhaustive of all possible changes to the current system; however, each of the options raises important issues for consideration.

Retaining the Status Quo: Hold-Harmless Payments to Rural Hospitals and Sole Community Hospital Payment Add-on. Even though it would increase costs to Medicare that are higher than current projections, it is within Congress’ power to mandate permanent hold-harmless payments for rural hospitals and the payment add-on that SCHs currently receive. The most substantial benefit of such an initiative might accrue to facilities with the greatest Medicare volume, such as Medicare Dependent hospitals. To the extent that the hold-harmless and add-on payment provisions offer hospitals a financial buffer, this approach will help to ensure access to outpatient services in small, rural communities and communities that are not well served by hospitals.

Even though the status quo offers some financial security to those hospitals that qualify for this protection, it is important to note the limitations inherent in both the hold-harmless and the add-on provisions:

• Both the hold-harmless and the SCH payment add-on provisions have been criticized because they do not create financial incentives for rural hospitals to attempt to achieve efficiencies in the delivery of services.

• Because hold-harmless and add-on payments are tied to size and/or payment status (e.g., SCHs), as opposed to financial status, both of these payment provisions may fail to offer relief to those providers who are most in need of financial support, leading to a situation where resources may be spent on some hospitals whose costs are not higher or that may not require additional reimbursement to remain viable.

Adjustments to Current OPPS System: Low Volume Adjustment. One payment adjustment that has been proposed by MedPAC as a means to achieve greater equity in reimbursement is the inclusion of a low-volume adjuster to the OPPS. The rationale for suggesting a low volume adjuster derives from MedPAC studies that have found an inverse relationship between outpatient service volume and cost per service. Low-volume hospitals may find it more difficult to spread fixed costs across their patient base and to benefit from economies of scale. They are also less likely than urban hospitals to obtain volume discounts, making average service costs higher.
Among the advantages to this approach is that it better targets payments to those providers who face higher costs and therefore are more apt to require additional reimbursement to remain solvent. However, the actual impact on rural providers and particular subsets of rural providers will depend on how the low-volume threshold is determined and set.

One concern with this approach is that some hospitals may have a low volume because they are geographically isolated and/or are located in a region with low population density. Other hospitals may have a low volume because they may not attract enough local business. This may be because of concerns over quality of care – determined either by patient perceptions or by objective measures. An important design element, which has been proposed to alleviate some of these concerns, is the inclusion of a distance requirement that hospitals would have to meet to qualify for hold-harmless payments. A distance requirement is expected to enable low-volume hospitals that are in geographically isolated areas and for whom market conditions, as opposed to quality concerns, drives volume, to benefit from this adjustment.

A low volume adjuster is not without its challenges. Implementation of a low-volume adjuster would create new administrative burden since providers will need to be classified and then periodically reclassified. Moreover, setting standards for mileage and an adjusted rate per facility is also resource intensive and will likely require analyses of hospitals’ market areas. Perhaps most problematic is that relatively little data on the quality of outpatient care is available. Because of the smaller number of patients treated, quality data for hospitals located in an area with low population density or low patient base is not as robust as that of hospitals with high population density or a larger patient base. However, CMS is expanding its outpatient quality measures. As this data becomes available, it may help clarify some of the previously discussed policy choices.

**Adjustments to Current OPPS System: Population Density Adjustment.** A more targeted approach to relieving rural providers from the financial burdens imposed under the OPPS may be achieved by including a population density adjuster as part of the reimbursement formula. Hospitals located in regions where population density is below a threshold level would qualify for this adjustment; as defined, these providers are more likely to be located in rural regions of the country.

The advantage of incorporating population density is that, because it is beyond a hospital’s control, hospital gaming by reducing the scope of services or the number of patients, which could possibly occur if a low volume adjustment were to be implemented, is less likely to occur. However, detractors might argue that a population-density adjuster fails to target hospitals that are in greater financial need.

**Adjustments to Current OPPS System: Service Mix Adjustment.** Studies have shown that rural outpatient hospitals provide a different mix of services than their urban counterparts, with rural providers delivering less complex or lower intensity services than urban providers. MedPAC found evidence that payment, relative to the costs associated with providing services, tends to be

---


12 Another criticism that has been voiced is that low volume could be. In such cases, it would be in conflict with the public good to reimburse these hospitals an additional amount for care that is low quality.
lower for less complex services, which is also suggested by analyses reported by CMS.13

Differences in the payment-to-cost ratios based on levels of service complexity reflect an inequity in reimbursement to providers who tend to offer more basic services. Addressing this inequity is likely to be resource intensive as it would require recalibration of service-specific weights in such a manner that the payment-to-cost ratio is approximately constant across services. Nonetheless, a recalibration would be necessary to promote greater equity in reimbursement of rural and urban hospitals.

**Adjustments to Current OPPS System: Mean v. Median Costs.** With the exception of the OPPS, the prospective payment systems that CMS has developed for use in other venues set rates based on mean costs. The OPPS, on the other hand, applies the median costs in setting rates. “The cited advantage of using median costs was that it limited the extent to which infrequently performed services with suspect costs could affect the payment rate of an APC group.”14

The application of median costs fails to include both the low and high “tails” in the cost estimation. To the extent that rural providers incur higher costs per service, use of the median in setting rates may understate these providers’ true costs. Recalibration of weights based upon mean costs is a viable alternative that may result in less compression of weights, greater accuracy in reimbursement, and shifting of funds across APCs. Although a resource intensive endeavor (extensive claims analyses would need to be conducted) recalibration of weights on the basis of mean costs could promote greater equity across providers. Indeed, all providers might benefit from a system that more precisely aligns costs and reimbursement.

**Adjustments to Current OPPS System: Adjustment for Errors in Coding.** In assessing the impact of the OPPS on small rural hospitals CMS noted that reductions in revenue could result, in part, from the fact that rural providers are more likely than urban providers to under-code claims.15 Rural-urban differences in coding conventions result in a lower payment-to-cost ratio for rural hospitals, for those services that are under-coded. Rectifying inaccuracies in coding would require historical reassignment of services to APCs, followed by reweighting and averaging of APCs to better reflect actual costs.

Despite the fact that this adjustment could financially benefit small rural providers, costs to CMS are likely to be high since recalibration of APCs using historical data would be costly in terms of both time and resources. Moreover, to avoid future problems associated with under-coding it will be necessary to conduct systematic training of rural providers on appropriate coding conventions.

**Beyond OPPS: Global Budgeting.** The discussion above focuses on refining the current system to more efficiently accommodate the special circumstances of rural hospitals; however, there are potentially more broad-based options for restructuring the outpatient reimbursement system that

---

15 Federal Register. Medicare Program Prospective Payment System for Hospital Outpatient Services, 2000; 65(68):18501
present opportunities for ensuring that rural providers are not adversely affected by the payment system. One such policy strategy is global budgeting.

Global budgeting is a system whereby a provider is reimbursed a predetermined amount based on projections of costs that will be incurred during a designated time period. Under a system of global budgeting of outpatient services, hospitals would be allotted an annual lump sum that would cover the costs of delivering outpatient services to the Medicare population. The total amount that each hospital receives would be based on historical data and projections of future service-mix.

Because budgets would be set in advance, each provider would be aware of the total resources available prior to the delivery of services and, thus, would be able to allocate funds appropriately. An advantage of this approach is that it builds in incentives for efficiency since cost savings, if any, would accrue to the provider. A potential disadvantage, however, may arise because of the smaller patient load experienced by rural hospitals. Due to low population density, rural hospitals are likely to experience greater fluctuation in volume than their urban counterparts. This smaller number of patients is likely to lead to greater variation in the number and case-mix of patients treated in any one year, possibly placing small rural hospitals at greater risk of experiencing financial losses under a global budgeting system, relative to larger providers. Frequent adjustments to address changing patient mix would likely be necessary in order to ensure that smaller hospitals are not adversely affected by an outpatient global budgeting reimbursement system.

**Conclusions**

There continues to be much that is not known about the financial effects of the OPPS on rural hospitals and the associated impact on patient access to outpatient care. The extension of the outpatient hold-harmless provision offers a limited window during which to gain an understanding of potential alternatives for reimbursing providers in a manner that promotes equity.

Both MedPAC and CMS have conducted research that has attempted to not only assess the relationship between costs and volume of outpatient services but also the relationship between the outpatient payment-to-cost ratio and the complexity of service mix. Although analyses have considered the association between costs and provider location, these analyses leave many unanswered questions. Policymakers weighing alternatives for improving outpatient payment in general, and payment to rural hospitals in particular, would benefit from a clear, complete analysis of the questions of whether or not there are economies of scale or of scope in producing outpatient services and, if so, how they affect service-level costs in rural hospitals. Such an analysis should clearly identify the role, if any, of exogenous factors such as population density and distance to other facilities. If there are economies of scale or scope and these external factors are associated with hospitals' potential to exploit these economies, they could be appropriate attributes around which to develop bonus payments to ensure continued access in areas that cannot attain efficient levels of service production.
## Table 1: Options for Modifying the Outpatient Prospective Payment System

<table>
<thead>
<tr>
<th>Policy Options</th>
<th>Key Features</th>
<th>Impact on Rural Hospitals</th>
<th>Impact on Hospital Behavior</th>
<th>Other Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hold harmless</strong></td>
<td>Targets SCHs and rural hospitals with fewer than 100 beds</td>
<td>Payments may reduce financial burden for eligible hospitals in the short term.</td>
<td>Offers some financial security to eligible providers and thus may help to ensure rural residents have access to certain types of outpatient services</td>
<td>No incentive for hospitals to enhance efficiency (a variation of cost-based reimbursement.)</td>
</tr>
<tr>
<td></td>
<td>Hold-harmless payment is the product of hospital costs and payment-to-cost</td>
<td>Medicare dependent and Sole Community Hospitals may benefit more than other rural hospitals due to high volume and add-on amount, respectively.</td>
<td></td>
<td>May not target payment to the most appropriate providers—e.g., those that are most financially at risk due to low volume or those most important to ensuring beneficiary access</td>
</tr>
<tr>
<td></td>
<td>ratio from base year when payment under prior payment-to-cost ratio exceeds OPPS payment.</td>
<td>CAHs are unaffected because they are not reimbursed under the OPPS</td>
<td></td>
<td>Based on historical payment-to-cost ratio that may be out-of-date.</td>
</tr>
<tr>
<td></td>
<td>Hold-harmless provision was recently extended until December 2009.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SCH Add-on payment</strong></td>
<td>Targets rural sole community hospitals, providing a 7.1 percent add-on for most services.</td>
<td>Rural SCHs experience increased reimbursement regardless of the actual financial effect of OPPS.</td>
<td>Offers financial security to SCHs and may help to ensure rural residents have access to outpatient services</td>
<td>No incentive for hospitals to enhance efficiency.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>May not target payments to providers who incur higher costs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Add-on amount may need to be modified over time to reflect actual cost per unit relative to other providers.</td>
</tr>
<tr>
<td>Policy Options</td>
<td>Key Features</td>
<td>Impact on Rural Hospitals</td>
<td>Impact on Hospital Behavior</td>
<td>Other Considerations</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Low volume adjustment</td>
<td>Adjustment to payments based on outpatient volume, for hospitals below threshold level.</td>
<td>Impact on particular rural hospitals will depend on where volume threshold is set. Overall, should benefit the majority of rural hospitals.</td>
<td>More effectively targets hospitals based on underlying cause of higher costs.</td>
<td>Potential for incentive to reduce capacity (rewarded for low volume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Less impact on higher volume rural providers, such as rural referral centers.</td>
<td>感受低流量的医院。</td>
<td>Possible that payments to low performing hospitals increase if low volume is correlated with lower quality.</td>
</tr>
<tr>
<td>Adjustments to account for population density</td>
<td>Payment adjustment is provided to hospitals with a population density below a designated threshold.</td>
<td>More likely to target rural (as opposed to urban) hospitals.</td>
<td>Population density likely to be correlated with hospital volume but beyond the hospital’s direct control so less subject to opportunistic behavior.</td>
<td>Payments provided to hospitals that may not be adversely affected by OPPS.</td>
</tr>
<tr>
<td>Adjustment to account for differences in service mix</td>
<td>Recalibration of reimbursement so that payment-to-cost ratio for less complex services/procedures the same as for more complex services</td>
<td>Should assist rural hospitals with a relatively less complex service mix</td>
<td>Allows rural hospitals to offer wide range of potentially needed services (including those that are less complex) that may not be available elsewhere in rural communities</td>
<td>Supports provision of less complex services in hospital, may not be cost-efficient setting</td>
</tr>
<tr>
<td>Adjust APC to reflect mean cost of services as opposed to median cost.</td>
<td>Recalibration of APC weights based on mean costs.</td>
<td>Financial benefits accrue to hospitals that provide less complex services.</td>
<td>May promote greater equity in reimbursement to small rural providers that do not perform complex services Approach is in line with other PPS models.</td>
<td>Would be time and resource intensive as extensive analyses of claims data would be required.</td>
</tr>
<tr>
<td>Adjust for errors in coding</td>
<td>Reassign services to APCs, reweight APCs and re-estimate mean costs.</td>
<td>Should assist rural hospitals with a less complex service mix.</td>
<td>Time and expense involved in recalibration may be high.</td>
<td>Requires investment in “re-training” or educating rural providers on coding.</td>
</tr>
<tr>
<td>Policy Options</td>
<td>Key Features</td>
<td>Impact on Rural Hospitals</td>
<td>Impact on Hospital Behavior</td>
<td>Other Considerations</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Global budgeting</td>
<td>Hospital-specific prospective reimbursement amount established for all outpatient cases.</td>
<td>Provides hospitals with predictable incomes.</td>
<td>Political feasibility is questionable.</td>
<td>Routine adjustments to account for changing service mix must be conducted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Could promote greater equity since hospitals that serve comparable populations, offer comparable services and require comparable resources receive same level of funding.</td>
<td>Because of low volume, greater variability in costs and rural providers may be more financially vulnerable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>May limit access if costs exceed global budget.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>