CHAPTER 5

Assessing payment for outpatient hospital care in rural areas

RECOMMENDATION

In the short term, no outpatient payment adjustments for rural hospitals are needed in addition to the current hold-harmless provision. The Secretary should revisit outpatient payments to rural hospitals when better information on hospitals' experience with the payment system is available.

***YES: 14 • NO: 0 • NOT VOTING: 0 • ABSENT: 2**

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 5

Assessing payment for outpatient hospital care in rural areas

In this chapter

- Paying for outpatient services in rural hospitals
- Applicability of the outpatient payment system to rural hospitals
- Limitations of the evidence
- Future policy options

Do rural hospitals face special circumstances that make the new outpatient prospective payment system inappropriate for them? Rural hospitals are concerned that the new payment system will not adequately cover their costs to provide care because it pays predetermined rates (based on median costs) for services provided by all hospitals. In response to a Congressional mandate, MedPAC has evaluated the extent to which special circumstances make it difficult for rural hospitals to keep their costs below the prospective payment system rates. The available evidence suggests that rural hospitals do face some unique circumstances and may merit special consideration. For example, they rely more on Medicare and on outpatient services as sources of revenue, increasing their exposure to the financial risks of prospective payment. At the same time, rural hospitals tend to have limited administrative capacity and financial reserves, leading to less ability to manage financial risk. Finally, the available cost data indicate that rural hospitals have higher outpatient unit costs. Our analysis suggests that in the short term, the existing hold-harmless policy—which provides additional payments to rural hospitals with 100 or fewer beds that experience losses under the outpatient prospective payment system—will provide financial support to rural hospitals that need it. In the longer term, other policies may be warranted.

In August 2000, the Health Care Financing Administration (HCFA) implemented a prospective payment system (PPS) for outpatient services. The introduction of the outpatient PPS generated considerable concern among rural hospitals and their advocates because it pays predetermined rates (based on median costs) for services provided by all hospitals. Special circumstances may make it difficult for rural hospitals to keep their costs below the PPS rates. This chapter reviews the treatment of rural hospitals under the outpatient PPS and assesses the appropriateness of the payment system for various types of rural hospitals, including rural referral centers (RRCs), small rural Medicare-dependent hospitals (MDHs), sole community hospitals (SCHs), other hospitals with 100 or fewer beds, and rural health clinics (RHCs).

Paying for outpatient services in rural hospitals

Most rural hospitals will be paid under the outpatient PPS, with the exception of critical access hospitals (CAHs), Indian Health Service hospitals, and hospitals in Maryland subject to a waiver from the inpatient PPS. Unlike under the inpatient PPS, rural hospitals with special designations (such as SCHs) are not subject to special outpatient payment rules.[1] However, the Balanced Budget Refinement Act of 1999 provided transitional financial protection for all small rural hospitals with 100 or fewer beds by holding them harmless from losses through calendar year 2003. Under this policy, all hospitals must submit claims and be paid the PPS rates; however, hospitals that would have received higher payments under the pre-PPS payment rules will receive an additional payment to make up the difference. The hold-harmless policy limits losses for rural hospitals as they adjust to the new system. More than 80 percent of rural hospitals are eligible for the hold-harmless payments, including almost all MDHs and SCHs but few RRCs. Anecdotal reports suggest that early implementation of the hold-harmless provision has been variable, with HCFA taking administrative steps to respond to hospitals' concerns (for more detail on the calculation and implementation of hold-harmless payments, see the text box below).

Implementing hold-harmless payments for small rural hospitals

Rural hospitals with 100 or fewer beds will receive additional hold-harmless payments if they suffer losses under the outpatient prospective payment system (PPS). Under this policy, all hospitals must submit claims and be paid the PPS rates. However, small rural hospitals that would have received higher payments under the pre-PPS payment rules than they actually receive under the outpatient PPS will receive an additional payment from the Health Care Financing Administration (HCFA) to make up the difference. Those hospitals that keep costs below the PPS rates will keep their gains.

By statute, the formula for determining hold-harmless payments (as well as other transitional corridor payments) is the current year charges reduced to costs and multiplied by a payment-to-cost ratio. Also by statute, both the cost-to-charge and payment-to-cost ratios used to calculate hold-harmless payments are set by HCFA based on 1996 cost reports (exceptions were made in the Medicare, Medicaid, and SCHIP Benefits Improvement Act of 2000 for hospitals without 1996 cost reports).

Although the final hold-harmless payment amounts are determined when hospitals' cost reports are settled, HCFA is making monthly interim payments based on submitted claims. Initial experience with the interim payments has been mixed, with HCFA taking administrative steps to respond to hospitals' concerns.

Anecdotal reports indicate that the interim payments have been important in protecting some rural hospitals' cash flow, while others believe that local fiscal intermediaries are not implementing them in a uniform and timely manner. In addition, given that the interim payments are based on submitted claims, they are affected by problems and delays in claims processing.

Concerns have also been raised regarding the adequacy of the interim payment amounts. For example, in calculating interim payments, HCFA pays only 85 percent of a hospital's estimated interim hold-harmless amount to avoid the need to recoup overpayments upon cost report settlement. Final calculation of hold-harmless payments will be done at cost report settlement and any over- or underpayments will be resolved. Settlement times vary, but can take 18 months or more.

Some hospitals have also expressed dissatisfaction with the cost-to-charge ratios used to calculate the additional payments; HCFA has instituted a limited appeals process in response. Finally, HCFA adopted a uniform 80 percent payment-to-cost ratio, rather than a hospital-specific ratio, to calculate interim payments as a way to expedite the payment process. Hospital-specific values will be used for interim payments beginning in July 2001 and to calculate final hold-harmless payments when cost reports are settled. ■

1 For a review of the special inpatient payment provisions for rural hospitals, see Chapter 4.

Rural hospitals with more than 100 beds, and virtually all other hospitals, may also receive transitional payments through 2003 if they are paid less under the outpatient PPS than they would have been paid under pre-PPS payment rules; however, they do not recoup the full difference and the extent of additional payment declines every year. Beginning in 2004, virtually all hospitals will receive only their outpatient PPS payments.[2]

Rural health clinics will, for the most part, continue to be paid based on costs, subject to certain per service limits, for their rural health clinic services. For other services, they are paid under the outpatient PPS (see text box on RHCs, p. 92). Critical access hospitals are paid on a reasonable cost basis for outpatient services.

Applicability of the outpatient payment system to rural hospitals

A prospective payment system pays all hospitals predetermined rates (based on median costs) for services. This payment methodology provides an incentive for hospitals to keep their costs below the PPS rates and puts hospitals at financial risk if their costs are above the PPS rates. Rural hospitals may face circumstances beyond their control that make them more vulnerable than urban hospitals to the financial risks associated with prospective payment, such as dependence on Medicare and outpatient services as sources of revenue, limited administrative capacity and financial reserves, a different service mix, and higher outpatient unit costs. Rural hospitals may also serve a unique social role.

This chapter examines the available evidence regarding the ability of rural hospitals to adapt to the outpatient PPS. We find some evidence that rural hospitals are more vulnerable to the financial risks inherent in the payment system and may have fewer resources available to manage those risks. However, the evidence has serious limitations, including a lack of systematic information regarding hospitals' experience with the outpatient PPS to date, questions regarding the completeness and reliability of outpatient claims and cost data, and difficulty obtaining recent cost data that are linked to claims information.

Given those limitations and the continuation of the hold-harmless provision through 2003, MedPAC recommends:

RECOMMENDATION

In the short term, no outpatient payment adjustments for rural hospitals are needed in addition to the current hold-harmless provision. The Secretary should revisit outpatient payments to rural hospitals when better information on hospitals' experience with the payment system is available.

Under the Balanced Budget Act of 1997, the Secretary has the authority to make adjustments to the payment system for specific classes of hospitals. In the final rule governing the payment system, HCFA indicated that it would monitor the performance of small rural hospitals during the early years of implementation and assess whether additional adjustments are needed after the hold-harmless provision expires (HCFA 2000).

The rest of this section reviews the evidence regarding rural hospitals' ability to adapt to the outpatient PPS. We then discuss the limitations of the evidence and outline future policy options for the treatment of rural hospitals under the outpatient PPS.

Dependence on Medicare and outpatient revenues

Medicare accounts for a larger share of total business for rural hospitals than for urban hospitals. Within Medicare, rural hospitals also tend to provide a greater share of outpatient services than urban hospitals. In 1999, Medicare costs for hospitals in rural areas made up 45.4 percent of total costs, compared with 34.0 percent for their urban counterparts. All rural hospital groups had an average Medicare share of at least 44.1 percent, with a high of 51.0 percent for Medicare-dependent hospitals (Table 5-1). Similarly, outpatient costs made up 21.8 percent of total Medicare costs for rural hospitals, but only 16.1 percent for urban hospitals. For rural hospitals with 100 or fewer beds, outpatient costs comprised 24.2 percent of Medicare costs (Table 5-2, p. 93). Given their greater reliance on Medicare and on outpatient services within Medicare, rural hospitals have more at stake than their urban counterparts in the move to the outpatient PPS.

HCFA's impact analysis of the outpatient PPS suggests that rural hospitals are more vulnerable to the financial risks of prospective payment. While all hospitals were estimated to gain an average of 0.2 percent in their outpatient payments before any transitional payments, rural hospitals were expected to lose an average of 1.8 percent. Small rural hospitals were projected to be more negatively affected, with those under 50 beds (about 50 percent of rural hospitals) losing 8.5 percent and those with 50-99 beds losing

TABLE 5-1 **Medicare costs as percent of total hospital costs, 1999**

Hospital type	Medicare share
All hospitals	34.9%
Urban	34.0
Rural	45.4
Rural hospitals by bed size	
1–100	44.8
101 or more	45.9
Rural hospitals by type	
Rural referral center	46.4
Sole community	44.1
Small rural Medicare-dependent	51.0
Other rural, 1–100 beds	43.9
Other rural, 101 or more beds	44.6

Source: MedPAC analysis of American Hospital Association annual survey data.

2 The exceptions are cancer and children's hospitals, which have permanent hold-harmless status. For a fuller description of the transitional corridor payments, see Chapter 2 in our June 2000 report.

Applicability of the outpatient payment system to rural health clinics

Two types of rural health clinics (RHCs) exist—free-standing clinics generally run by physicians, and provider-based clinics generally operated by a hospital. In 1998, there were about 3,750 RHCs, of which 50 percent were provider-based (Farley et al. 2001).[3] The range of services provided in RHCs builds on a primary care base and includes routine diagnostic and therapeutic services and basic laboratory services. RHCs may also bill for non-RHC services, such as X-rays or other diagnostic and therapeutic services, provided in the RHC.

Under the Medicare program, RHCs are paid an all-inclusive rate, which includes both professional and facility costs, for their RHC services. RHCs are paid based on their costs, up to a per visit cap that is updated for inflation. RHCs must also meet productivity standards. Both free-standing and provider-based clinics are subject to the cap and productivity standards; however, RHCs owned by hospitals with less than 50 beds are exempt from the payment cap (but not the productivity standards) and are paid based on their reasonable costs (the Health Care Financing Administration (HCFA) estimates that about 600 RHCs are part of hospitals with fewer than 50 beds). Medicare reimburses most RHCs subject to the cap at the maximum level.

When HCFA implemented the outpatient prospective payment system (PPS), it changed the payment mechanism for non-RHC services provided in hospital-based RHCs. Rather than billing these services as an RHC and being paid on a cost basis, RHCs that provide non-RHC services are paid for them under the outpatient PPS for the facility component. The professional component of non-RHC services is covered by the all-inclusive rate.

The main advantage of making the outpatient PPS apply to provider-based RHCs for non-RHC services is that the Medicare program pays the same amount for the same service provided by the same organization (the parent hospital). It also eliminates the incentive to shift costs and patients receiving non-RHC services from the outpatient department to the RHC, which would exist if cost-based reimbursement were continued in RHCs.

Any difference in payment between the outpatient department and the RHC will create incentives to shift services to the site of care with the highest payment rate. The ability to act on these incentives depends, in part, on the proximity of the clinic to the main hospital, as well as the facilities available in the clinic and the impact of shifting the site of service on both physicians and patients. In 1995, about one-third of RHCs were in the same town as the parent hospital (Schoenman et al. 1999).

Implementing the outpatient PPS in RHCs also creates some problems. For instance, the overlay of a second payment system on what are often small clinics staffed by one or two providers creates an administrative burden. This payment system also creates a further inconsistency in how the two types of RHCs—free-standing and provider-based—are paid. Given that the policy objective served and the services provided in the two types of clinics are similar, it may be advantageous to equalize their treatment.

In order to assess the applicability of the outpatient PPS to provider-based RHCs, a number of questions must be answered:

- To what extent are these clinics providing services outside the all-inclusive rate? Do those services overlap with the outpatient department? If few non-RHC services are provided, then the administrative burden for providers of complying with the outpatient PPS may outweigh the benefits to the program of having a uniform payment system.

- Do the payment rates established by the outpatient PPS adequately reflect the efficient provision of care in RHCs? The clinics may have different cost structures than the outpatient department, requiring a separate payment rate.

- Does the outpatient PPS payment for services covered by the all-inclusive rate exceed the RHC payment limit? If it does, hospitals may decide to close their provider-based RHCs and integrate the services into their outpatient departments.

Unfortunately, data to answer these questions do not currently exist. Due to the per visit payment structure, RHC claims contain little detailed information regarding the services performed. Cost reports are difficult to obtain. HCFA is now gathering more complete data on RHCs.

Given the limited information available, it is difficult to evaluate the applicability of the outpatient PPS to these clinics. However, alternatives that may be considered as more data are gathered include establishing a distinct PPS for all rural health clinic services, or developing a separate payment mechanism for non-RHC services, based either on a fee schedule or cost-based pass throughs with payment limits. ■

3 The methodology used in this study counts the number of clinics operating at any time during the year. This results in a larger estimate than counting the number of clinics operating at a single point in time.

TABLE 5-2

Outpatient costs as percent of total Medicare costs, 1999

Hospital type	Outpatient share
All hospitals	17.0%
Urban	16.1
Rural	21.8
Rural hospitals by bed size	
1–100	24.2
101 or more	19.8
Rural hospitals by type	
Rural referral center	19.9
Sole community	23.9
Small rural Medicare-dependent	24.0
Other rural, 1–100 beds	23.8
Other rural, 101 or more beds	19.9

Note: Total Medicare costs include operating and capital costs for inpatient, outpatient, home health, skilled nursing facility, and exempt unit services, as well as graduate medical education and Medicare bad debt. Based on a sample that includes about one-half of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare cost reports.

From a financial perspective, rural hospitals tend to have lower reserves and less access to financial markets. Therefore, the cash-flow problems associated with moving to a new payment system may be more serious for them (the transition has reportedly lengthened processing times and increased the number of rejected and returned claims). Interim payments linked to the hold-harmless provision partly mitigate cash flow problems.

The transition to the new payment system has also affected coinsurance. Rural hospitals have reported anecdotally that they are charging higher coinsurance rates under the outpatient PPS than they used to. Rural beneficiaries generally have lower incomes and are less likely than urban beneficiaries to have supplemental coverage. If rural beneficiaries cannot meet these increased coinsurance obligations, access may be affected and rural hospitals' bad debt for outpatient services may increase (for more discussion of the potential impacts of the outpatient PPS on access to high-quality care in rural areas, see the text box, p. 94).

Limited financial reserves may also hamper rural hospitals' ability to adapt to the new payment system in the long term. The outpatient PPS pays hospitals a fixed amount per service delivered. If costs are above the payment amount, hospitals must absorb the losses; if costs are kept below payments, hospitals keep the gains. The outpatient PPS does include an outlier payment; however, hospitals still bear some of the costs associated with outliers.[4] With a large volume of services and a diversified service line, a hospital can offset losses on some services by gains on others. However, the small size and limited scope of many rural hospitals make such cost-shifting less feasible. Rural hospitals often lack access to financial markets and other fund-raising sources as well, such as support from local governments and charities, trust funds and other financial assets, and revenue sources such as parking lots and cafeterias.

2.7 percent. After including the transitional corridors and hold-harmless payments, all hospital groups were estimated to see increased outpatient payments, with the average increase being 4.6 percent for all hospitals and 4.4 percent for rural hospitals (HCFA 2000).

Limited administrative capacity and financial reserves

Limited administrative capacity and financial reserves affect rural hospitals' ability to adapt to the outpatient PPS in both the short and long term. In the short term, learning a new payment system and ensuring proper billing entail a significant administrative burden for all hospitals. Small rural hospitals with limited staff are likely to find the task even more difficult. Payment depends on proper coding. Therefore, hospitals with fewer resources to devote to making this transition may experience cash flow problems.

TABLE 5-3

Medicare margins, by hospital type, 1999

Hospital type	Outpatient margin	Overall Medicare margin
All hospitals	−15.3%	5.6%
Urban	−15.1	6.8
Rural	−15.8	−2.9
Rural hospitals by bed size		
1–100	−17.3	−4.1
101 or more	−14.0	−1.5
Rural hospitals by type		
Rural referral center	−13.7	−1.3
Sole community	−14.1	−2.7
Small rural Medicare-dependent	−20.4	−1.3
Other rural, 1–100 beds	−18.8	−5.9
Other rural, 101 or more beds	−16.1	−3.7

Note: Overall Medicare margin includes operating and capital payments and costs for inpatient, outpatient, home health, skilled nursing facility, and exempt unit services, as well as graduate medical education and Medicare bad debt. Overall Medicare margin is based on a sample of about one-half of hospitals covered by prospective payment. Outpatient margin is based on a sample of about two-thirds of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare cost reports.

4 HCFA currently assesses outliers at the claim level. Costs must exceed the payment rate by a factor of 2.5. Hospitals are then reimbursed 75 percent of costs above the threshold. The outlier provision is budget neutral, with a limit on outlier payments of 2 percent of total outpatient program payments.

Potential impacts of the outpatient payment system on access to quality care in rural areas

The implementation of a prospective payment system (PPS) for outpatient services in August 2000 marked a dramatic departure from previous payment policy and was greeted with considerable concern by hospitals. To get early perspectives on the possible consequences of the new payment system for Medicare beneficiaries' access to quality care, and to have timely knowledge of any significant access or quality problems, MedPAC contracted with the Center for Health Policy Studies to conduct structured interviews with key informants. The interviews included 82 individuals from hospitals, trade associations, government, research firms, beneficiary organizations, and payers. Of those interviewed, eight were rural hospital administrators from hospitals ranging in size from 50 to 300 beds (4 had 100 or fewer).

Rural hospital administrators reported few short-term access and quality concerns, although they felt burdened by the new billing and coding requirements of the outpatient PPS. On a financial front, they reported that the interim hold-harmless payments have been important to ensure cash flow. In addition, most reported an increase in coinsurance liability for their patients, which may present an access problem for beneficiaries and increase rural hospitals' bad debt if beneficiaries cannot pay.

In the long term, respondents felt that rural hospitals may be forced to reduce the scope of services offered due to reimbursement levels below their costs, although only one hospital reported already changing services due to the payment system. The low volume of services provided by rural hospitals can result in higher unit costs than those of the average hospital (payment rates, however, are set at a national level). Services of particular concern to some hospitals were radiology and emergency services. A decrease in services offered by rural hospitals may not cause an access problem for beneficiaries if the services are available at other sites, such as physicians' offices or ambulatory surgical centers. However, these substitute sites many not be available locally, especially in small communities. Therefore, shifts of services to substitute sites may increase travel times for beneficiaries, which could affect access. Finally, some respondents suggested that the introduction of the outpatient PPS would encourage more conversion to critical access hospital (CAH) status, as CAHs are exempt from the payment system. ■

Rural hospitals' financial position is reflected in their margins.[5] Even before the introduction of the outpatient PPS, rural hospitals had lower Medicare outpatient margins than did their urban counterparts (Table 5-3, p. 93). Medicare-dependent hospitals had the lowest outpatient margin for 1999: –20.4 percent. Among rural hospitals, those with fewer beds had lower margins. Interpreting outpatient margins can be difficult, and the numbers presented here understate outpatient financial performance. Previous payment policy, which paid for most outpatient services based on costs while inpatient services were paid under a PPS, provided an incentive to over-allocate fixed costs to outpatient services. In part to counteract this trend, previous payment system rules set payments below reported costs, leading to negative outpatient margins for all hospitals. However, among urban hospitals a high, positive inpatient margin generally translates into a positive overall Medicare margin. For rural hospitals, overall Medicare margins are, on average, negative.

Different service mix

Rural hospitals tend to provide a different mix of services than do their urban counterparts. The service-mix index is an average of the relative weights for the outpatient PPS services provided in a hospital and is analogous to the case-mix index for inpatient care. This index provides a global measure of the resource intensity of the services provided, with a larger number indicating a more resource-intensive, and generally more complex, service mix. According to MedPAC analysis, the average outpatient service-mix index in 1996 was 2.19 for all hospitals, 2.38 for urban hospitals, and 1.95 for rural hospitals.

The impact of differences in service mix on various types of rural hospitals will depend on the adequacy of the payment rates by type of service. If payments are adequate to cover costs for all services, there will be no differential impact by hospital type due to service mix differences. If, however, the payment-to-cost ratio varies among the services provided, different types of hospitals may do better or worse under the outpatient PPS due to underlying differences in the services provided.

The outpatient PPS covers a broad and diffuse array of services, from office visits and X-rays to advanced imaging and significant operations. Tables 5-4 (p. 95) and 5-5 (p. 96) provide a classification scheme that allows a better understanding of the types of services covered and the differences in service mix summarized by the service-mix index. The volume of outpatient services provided by various types of hospitals is grouped into five broad categories for comparison: evaluation and management, procedures, imaging, testing, and other services. The categories are based on HCFA's Berenson-Eggers Type of Service classification system, modified to better

5 Margins are calculated (in percentage terms) as the difference between payments and costs divided by payments.

TABLE 5-4

Outpatient service mix, urban and rural hospitals, 1999

Service category	Percent of volume by type of hospital				
	All hospitals	Urban	Rural	Rural 1–100 beds	Rural 101 or more beds
Evaluation and management	**24.6%**	**24.3%**	**25.8%**	**28.3%**	**22.7%**
Clinic/office visits	16.6	16.5	17.0	18.2	15.4
Emergency/critical care	7.6	7.4	8.5	9.8	6.8
Consultations	0.4	0.4	0.3	0.3	0.4
Procedures	**18.8**	**19.8**	**15.8**	**12.8**	**19.5**
Major procedures	1.3	1.5	0.7	0.4	1.1
Minor and ambulatory procedures	7.0	6.8	7.4	8.1	6.4
Eye procedures and ophthalmology services	1.4	1.4	1.3	1.3	1.4
Endoscopy	2.5	2.5	2.4	2.3	2.5
Radiation therapy	6.7	7.5	4.0	0.7	8.2
Imaging	**30.4**	**29.5**	**33.4**	**34.4**	**32.0**
Standard imaging	19.4	18.5	22.4	24.0	20.4
Advanced imaging	5.2	5.2	5.1	4.6	5.8
Echography	4.8	4.7	5.3	5.6	5.0
Other imaging	1.0	1.2	0.6	0.3	0.9
Testing	**18.1**	**18.4**	**17.1**	**16.2**	**18.3**
Lab tests and pathology services	7.6	8.1	5.7	4.4	7.4
Cardiology tests (EKG, stress tests)	6.8	6.5	7.7	8.2	7.0
Other tests	3.8	3.8	3.7	3.6	3.9
Other services	**8.1**	**8.1**	**7.9**	**8.2**	**7.5**
Psychiatric services	2.8	3.1	1.6	1.7	1.5
Other specialist services	2.3	2.1	2.8	3.2	2.4
Chemotherapy	2.2	2.1	2.4	2.2	2.7
All other services	0.8	0.7	1.0	1.1	0.8

Note: EKG (electrocardiogram). Major procedures include services such as breast surgery, coronary angioplasty, pace-maker insertion, and orthopedic surgery. Minor and ambulatory procedures include services such as hernia repair, lithotripsy, and skin/musculoskeletal procedures. Rural hospitals are located in non-metropolitan areas, as defined by the U.S. Office of Management and Budget.

Source: MedPAC analysis of 5 percent sample of 1999 outpatient claims and HCFA's Berenson-Eggers Type of service classification scheme.

reflect services provided in the outpatient setting. As expected, rural hospitals tend to provide more basic services, including emergency services, and fewer services that require advanced technology. In general, the differences among rural hospitals are greater than those between urban and rural hospitals.

Outpatient services in rural hospitals include a somewhat greater share of evaluation and management services, such as physician visits (25.8 percent of all services), than in urban hospitals (24.3 percent) (Table 5-4). Within evaluation and management, emergency visits make up a larger share of rural hospitals' total volume (8.5 percent versus 7.4 percent). On the other hand, rural hospitals' outpatient departments have a substantially lower proportion of procedures (15.8 percent versus 19.8 percent for urban hospitals), particularly major procedures such as coronary angioplasty, breast surgery, and orthopedic surgery. Radiation therapy comprises a larger share of urban outpatient volume (7.5 percent) than rural (4.0 percent). Rural hospitals have a greater proportion of imaging services, but they are slightly more concentrated in standard imaging such as X-ray than in advanced imaging such as computerized axial tomography or magnetic resonance imaging. Rural hospitals' service mix includes a lower share of tests, including fewer lab and pathology services.

TABLE 5-5

Outpatient service mix, rural hospitals, 1999

Service category	Percent of volume by type of hospital: Rural referral center	Sole community	Small rural Medicare-dependent	Other rural, 1–100 beds	Other rural, 101 or more beds
Evaluation and management	**22.4%**	**25.4%**	**26.3%**	**30.9%**	**24.5%**
Clinic/office visits	15.7	15.4	16.5	20.5	16.3
Emergency/critical care	6.4	9.8	9.4	10.1	7.6
Consultations	0.3	0.2	0.5	0.2	0.6
Procedures	**20.5**	**14.2**	**13.3**	**12.1**	**14.9**
Major procedures	1.2	0.5	0.3	0.4	0.7
Minor and ambulatory procedures	6.2	8.4	9.3	7.6	6.8
Eye procedures and ophthalmology services	1.4	1.4	1.0	1.2	1.5
Endoscopy	2.5	2.3	2.2	2.2	2.5
Radiation therapy	9.1	1.7	0.4	0.6	3.5
Imaging	**30.7**	**35.7**	**34.5**	**33.8**	**35.1**
Standard imaging	19.1	24.6	24.5	23.7	23.5
Advanced imaging	5.7	4.9	4.2	4.4	6.0
Echography	5.0	5.8	5.6	5.4	5.0
Other imaging	1.0	0.4	0.3	0.3	0.6
Testing	**18.1**	**17.6**	**16.3**	**15.3**	**18.3**
Lab tests and pathology services	7.4	5.3	4.6	3.9	7.1
Cardiology tests (EKG, stress tests)	6.6	8.2	8.2	8.3	8.0
Other tests	4.1	4.1	3.6	3.1	3.2
Other services	**8.2**	**7.1**	**9.5**	**7.9**	**7.2**
Psychiatric services	2.1	0.8	1.2	2.1	1.2
Other specialist services	2.5	3.0	4.0	3.0	2.5
Chemotherapy	2.8	2.3	2.0	2.0	2.8
All other services	0.8	1.0	2.2	0.9	0.7

Note: EKG (electrocardiogram). Major procedures include services such as breast surgery, coronary angioplasty, pace-maker insertion, and orthopedic surgery. Minor and ambulatory procedures include services such as hernia repair, lithotripsy, and skin/musculoskeletal procedures.

Source: MedPAC analysis of 5 percent sample of 1999 outpatient claims and HCFA's Berenson-Eggers Type of Service classification scheme.

The differences noted above are more pronounced among smaller rural hospitals, SCHs, and MDHs (Table 5-5). The profile of services delivered by RRCs and larger rural hospitals (101 or more beds) is generally closer to that of urban hospitals. For example, 9.8 percent of the services delivered by SCHs were emergency visits or critical care services, compared with 6.4 percent for RRCs. Similarly, procedures make up 20.5 percent of the volume for RRCs, but only 14.2 percent for SCHs and 13.3 percent for MDHs. Among the rural hospitals, radiation therapy comprises a fairly high percentage of total volume for RRCs (9.1 percent), but almost none for SCHs (1.7 percent) or MDHs (0.4 percent).

On balance, rural hospitals have a lower-intensity service mix and a greater proportion of emergency services. If the payments rates for these services are adequate, then the differences in service mix should not lead to differences in financial performance. Given the newness of the outpatient PPS, there is no solid evidence regarding services that may be more or less adequately reimbursed. However, comments on the payment system by various industry groups and reports in the trade press have suggested some potential issues. For example, payment rates for clinic visits may not be accurate due to previous coding practices (at many hospitals, all visits were coded at the lowest level). There is also concern about the lack of a separate payment for observation services, where beneficiaries coming to the emergency department are not admitted or discharged immediately, but monitored for a period of time. This

may lead to inadequate payment for emergency department services. Experience under the outpatient PPS will allow for a better understanding of the accuracy of the payment system with regard to specific types of service.

Higher unit costs

Economic theory postulates that low volume leads to higher unit costs due to a lack of scale and scope efficiencies. Scale economies arise when fixed capital and other resources, such as a magnetic resonance imaging (MRI) machine, can be used for a greater number of patients, leading to lower costs per service. Scope efficiencies arise when fixed capital and other resources can be used across service lines. In this case, the MRI machine is used for both inpatients and outpatients, again leading to lower costs per service.

Rural hospitals generally have lower service volumes and higher unit costs. Based on 1996 claims data and associated cost reports, the wage index and service mix adjusted cost per service is $61 for all hospitals, $59 for urban hospitals, and $66 for rural hospitals. Thus, rural hospitals have an adjusted unit cost that is 8.2 percent higher than the average. Among rural hospital types, the highest adjusted costs per service are found among SCHs ($69) and MDHs ($67).

To address the volume-cost relationship, we conducted regression analyses to determine whether smaller hospitals have higher unit costs after adjusting for the components of the payment system that affect a hospital's payment rates: wage index and case mix.[6]

The results must be interpreted cautiously due to data constraints. Given the difficulties in matching costs to outpatient PPS services, we have chosen to use HCFA's estimates of 1996 costs that formed the basis for the payment system. There are limitations to the data, including probable undercoding of claims by hospitals (which understates volume of services), difficulties in matching the Medicare cost reports to the outpatient claims, and the age of the data. However, these data are the best available, given that they rely on 100 percent of claims. In addition, these data issues are not likely to have improved substantially since 1996 and would not, therefore, be addressed by the use of more recent data. More recent data would be desirable, however, if the volume-cost relationship has changed since 1996. Using only one year of data may lead to bias toward showing economies of scale in the estimation of the volume-cost relationship due to transitory shifts in volume, which are more common at low levels.[7] Finally, a multi-product cost function including all of a hospital's service lines (inpatient, outpatient, home health, and so on) would better account for economies of scope.

As shown in Figure 5-1 (p. 98), low-volume hospitals did have higher adjusted costs per service; this relationship was found to be statistically significant.[8] Those at the lowest volume levels (less than 2,000 services per year) exhibited unit costs more than 15 percent higher than the mean adjusted cost per service. Adjusted unit costs approached the mean value at a volume of about 7,000 services per year, and then fell below it. Thirty-eight percent of sample hospitals reported service volumes below 7,000. Of those, 72 percent were rural. The median volume for sample hospitals was about 10,400 services per year and the mean was 17,800. Most of the low-volume hospitals (defined as 7,000 or fewer services per year) are now subject to special outpatient payment provisions, with 63 percent covered by the hold-harmless provision and 8 percent part of the CAH program.[9] Among all rural hospitals in the sample, 61 percent are low-volume. When looking at the rural hospital types, 81 percent of MDHs, 65 percent of SCHs, and 97 percent of CAHs are low-volume. For other rural hospitals with 100 or fewer beds, the number is 67 percent. No RRCs are low-volume.

The volume-cost relationship held across all hospitals. In considering hospital types, urban hospitals, rural hospitals with more than 100 beds, and RRCs did not have significantly different adjusted unit costs from one another. However, two groups of particular interest in looking at rural hospitals did show adjusted unit cost differences: rural hospitals with 100 or fewer beds, which benefit from the hold harmless provision, and CAHs, which are exempt from the outpatient PPS.[10]

At any volume, rural hospitals with 100 or fewer beds had adjusted unit costs that were about 2 percent higher than those of urban and larger rural hospitals (Figure 5-1). This finding supports the need for the existing hold-harmless policy, although the size of the effect suggests that these hospitals may be able to adapt to the PPS rates in the future. For hospitals that have converted to CAH status (as of September 2000), adjusted

6 The sample included 4,784 hospitals. We excluded long-term, psychiatric, rehabilitation, cancer, and children's hospitals from the analysis because we considered them to be poor comparators to rural hospitals and because they seemed to have greater data problems. In addition, hospitals reporting fewer than 100 units were excluded for reasons of data reliability. One high-volume hospital was also excluded as an outlier.

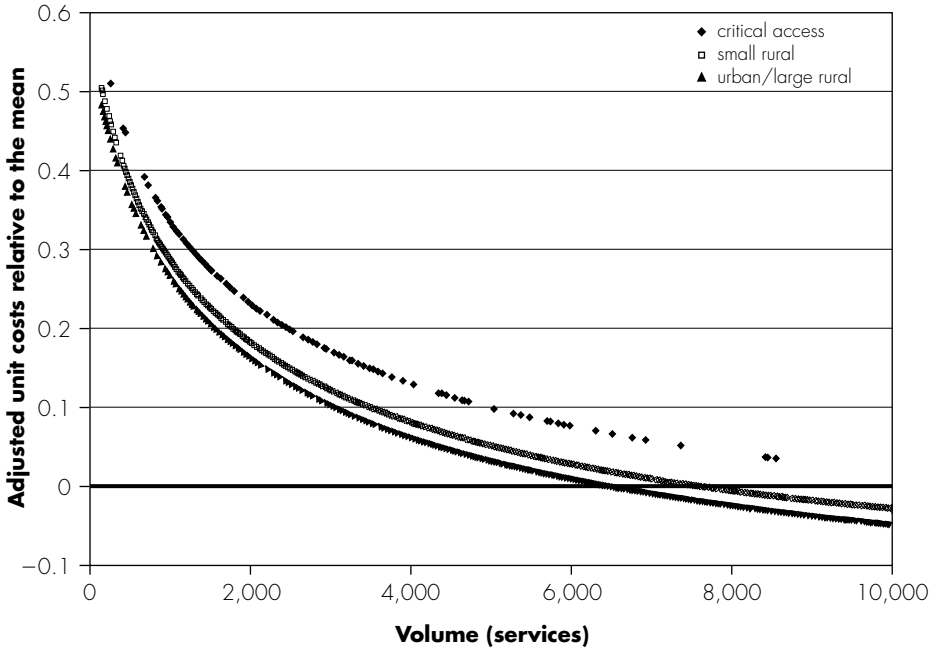
7 The bias is in the direction of showing economies of scale because one year of lower-than-average volume compared with average fixed costs will result in a higher unit cost at low volumes than would be obtained in a steady state. Conversely, one year of higher-than-average volume compared with average fixed costs will result in a lower unit cost at high volumes than would be obtained in a steady state.

8 These results are from a payment model that included only volume measures (cubic expansion of the natural log of outpatient units), hold-harmless status, and CAH status as explanatory variables. The dependent variable was the natural log of adjusted unit costs. All explanatory variables in the model were statistically significant ($p < 0.05$). The R^2 value was 0.22. Additional modeling that included other hospital and market characteristics thought to affect costs resulted in a similar volume-cost relationship.

9 This percentage is likely to grow as the CAH program expands. The CAH classification used in this analysis dates from September 2000.

10 To compare this grouping with other rural hospitals designations, it is important to remember that most MDHs and SCHs have 100 or fewer beds while most RRCs have more than 100 beds.

FIGURE 5-1 **Outpatient volume-cost relationship, 1996**



Note: Volume is truncated at 10,000 services. The actual range of values was 100 to 250,000. Small rural hospitals have 100 or fewer beds. Large rural hospitals have 101 or more beds.

Source: MedPAC analysis of 1996 outpatient cost data from HCFA and outpatient prospective payment system impact file.

unit costs were about 7 percent higher than those of urban and larger rural hospitals in 1996 (Figure 5-1). This finding suggests that hospitals with high costs have chosen to become CAHs. It also suggests that CAHs would have difficulty operating under the outpatient PPS without special protections.[11]

Unique social role

Some have argued that as a matter of public policy, we may wish to accommodate higher costs in rural hospitals both to preserve access and because they serve other important functions. For example, these hospitals may be the only sources of emergency services in small isolated areas. In addition, they may be major employers in local markets. Finally, the presence of medical services may be part of an economic development strategy to attract and retain other businesses.

Limitations of the evidence

The evidence we have presented suggests that rural hospitals, and particularly small rural hospitals, may have higher costs, be more vulnerable to the financial risks inherent in prospective payment, and be less able to adapt to the new payment system. However, assessment of the applicability of the outpatient PPS to rural hospitals is hampered by a lack of experience and data from service provision under the payment system. Some questions can only be answered using claims, cost reports, and other evidence from hospitals operating under the system. These questions include:

- Do payment-to-cost ratios vary by the type of service provided? If so, has this negatively affected rural providers? Could changes to payment rates for specific services address the problem?
- Do the adjusted unit costs of rural hospitals continue to be higher under the outpatient PPS?
- Have most rural hospitals received hold-harmless payments, indicating that their PPS payments are below the pre-PPS levels?
- How have outpatient margins changed under the new payment system? Is there evidence of increased financial pressure?
- Do we have evidence of impaired access to outpatient services in rural hospitals that can be attributed to the new payment system?

In addition, issues regarding the age and reliability of the 1996 data to assess the relationship between outpatient costs and volume limit our ability to draw policy conclusions.

Further analysis and data from implementation experience may show that rural hospitals can adapt to the outpatient PPS, or it may reveal systemic problems. In the meantime, the current policy of having a hold-harmless provision for rural hospitals with 100 or fewer beds protects more than 80 percent of rural hospitals, and all of the small rural hospitals that appear to be most vulnerable, through 2003. This provides time to gather data and conduct further analyses that will better inform future policy decisions regarding the treatment of rural hospitals under the outpatient PPS.

Future policy options

If additional data and experience under the PPS show that rural hospitals face special circumstances beyond their control that make it more difficult for them to cover their costs under the outpatient PPS, then the payment system should recognize those circumstances and make appropriate accommodations. If, however, rural

11 Given data limitations, the point estimates noted here should be considered notional rather than definitive.

TABLE 5-6

Future policy options for outpatient payments to rural hospitals

Policy	Incentives for efficiency	Administrative feasibility	Targeting
Maintain current policy	Rural hospitals have same incentives as others	Same system for all hospitals	No hospitals receive additional payments
Adopt separate conversion factor for rural hospitals or some subgroup	Incentives for efficiency are maintained, but rural hospitals have higher ceiling	Same system for all hospitals	Additional payments are not targeted within group
Make a low-volume adjustment for all hospitals	Incentives for efficiency are maintained, but low-volume hospitals have higher ceiling	Introduces interim payment and settlement issues	Additional payments are targeted to low-volume hospitals
Extend the current hold-harmless provision for small rural hospitals or some subgroup	Incentives for efficiency are maintained, with some potential for inefficiency	Introduces interim payment and settlement issues	Additional payments are targeted to hospitals with losses
Return to cost-based payment for rural hospitals or some subgroup	Incentives for efficiency are not maintained	New system that introduces settlement and cost allocation issues	Additional payments are not targeted within group

hospitals are found to have adapted to outpatient prospective payment without compromising access and quality, no adjustments would be needed.

Five policy alternatives are presented in Table 5-6 and discussed below. The ideal policy would contain financial incentives to control costs, be administratively feasible, and target additional payments only to those hospitals that truly need them. The extent to which each alternative has these three characteristics provides one framework for judging which might be most appropriate. Adopting any one of these policies would require difficult decisions regarding exact design specifications and identification of the facilities to benefit.

One policy that is not discussed here, but which would affect outpatient payments to rural hospitals, is a change in the wage index, which is discussed in Chapter 4. It is likely that any change would apply to both payment systems, as the outpatient PPS uses the same wage index as the inpatient PPS, with 60 percent of the payment amount adjusted for geographic variations in input prices. Future consideration of outpatient payment adjustments for rural hospitals must also take into account the extent to which hospitals have become CAHs, which are exempt from the outpatient PPS.

If and when specific policies are designed, it would be more appropriate to base eligibility on outpatient criteria (such as volume or payment-to-cost ratios) rather than inpatient criteria. Given the trend of diversification away from inpatient services in rural hospitals, it is not clear that the number of beds or other inpatient measures are good proxies for outpatient characteristics. However, more work needs to be done to assess the validity and reliability of various outpatient measures.

No change from existing policy

Under existing policy, small rural hospitals will receive hold-harmless payments through 2003, and then will be treated no differently than other hospitals under the payment system (unless they are CAHs).

This policy assumes that rural hospitals will be able to adapt to the outpatient PPS. It would provide the same efficiency incentives for all hospitals and allow for a single administrative system. If future research shows that rural hospitals perform adequately under the PPS, this option should be pursued. It should be noted, however, that the transition to the full fee schedule is abrupt for small rural hospitals. A more gradual transition for rural hospitals, phasing out the hold-harmless payments over two to three years beyond 2003, might be considered.

Separate conversion factor

A separate conversion factor would pay rural hospitals, or certain types of rural hospitals, more for all outpatient services delivered. The design of the policy could take into account such factors as geographic isolation (using measures such as the urban influence codes) or size (using measures such as outpatient volume or number of beds).

This policy would recognize structural differences that make delivering outpatient services uniformly more expensive for rural hospitals, if they exist. It would maintain incentives for efficiency by maintaining the structure of the outpatient PPS, but pay relatively more

per service (due to differences in the wage index, the absolute payments may still be lower in rural areas). By maintaining the structure of the outpatient PPS, a separate conversion factor also allows HCFA and its fiscal intermediaries to maintain one billing system. There would be no need for special adjustments or settlements. However, a separate conversion factor may not be needed for all rural hospitals, such as those in peri-urban areas or those that are larger. In addition to recognizing legitimately higher costs, this approach may also reward inefficiency. Any policy that provides additional payments should be designed in a way that does not subsidize excess capacity. This could be achieved by including a distance criterion or other measure that limits additional payments for hospitals that are too close to the nearest similar facility.

Low-volume adjustment

A low-volume adjustment would pay more per service for hospitals that provide fewer outpatient services in recognition of the limited scale and scope economies possible at lower output levels. The adjustment could have a graduated design, such that additional payments decline as volume increases.

If the underlying cause of high unit costs for rural hospitals is low volume, then a low-volume adjustment may address the problem. MedPAC's cost function analysis presented above does indicate a volume-cost relationship that results in higher-than-average unit costs for those at the lowest volumes. Assuming that the adjustments are made to the conversion factor for low-volume hospitals, HCFA and the fiscal intermediaries can maintain a single billing system across hospitals. However, this approach may provide additional payments to low-volume hospitals that can keep costs below the PPS rate. It may also provide an incentive to decrease volume, although an appropriately graduated design could minimize this problem. In addition, a low-volume adjustment provides no incentives to rationalize care and close hospitals that may not be needed. Including a distance criterion or other measure, however, could protect against subsidizing excess capacity. Finally, this approach may require end-of-year settlements and adjustments to verify volume and settle accounts.

Extended hold-harmless provision

An extended hold-harmless provision would continue the current policy of ensuring that small rural hospitals are paid at least as much under the outpatient PPS as they were under previous payment policy. Alternatively, the target group could be based on outpatient measures, such as volume, or include factors such as geographic isolation.

By providing additional payments only when hospitals cannot keep costs below the PPS rate, this policy maintains some incentives for efficiency and targets those most in need of help. If hospitals can keep costs below the PPS rate, they keep the gains. In addition, the policy allows HCFA and fiscal intermediaries to maintain a single billing system. However, this approach assumes that the hospital-specific 1996 payment-to-cost ratios on which the hold-harmless payments are based were appropriate. It also perpetuates differences in payments among hospitals that existed in 1996. An extended hold-harmless provision allows for some inefficiency, albeit with a limit on the amount of additional payment. It may subsidize excess capacity without the inclusion of a distance criterion or similar measure. Finally, as under the current policy, the extended hold-harmless provision would require end-of-year settlements and adjustments.

Cost-based payment

Some proponents have argued that due to the unique characteristics of rural hospitals, prospective payment carries too many risks and payment should be made on a cost or cost-plus basis.

This approach to paying hospitals ensures that hospitals can continue to operate. However, it includes no incentives for efficiency, and, as we saw in the 1970s and 1980s, it can lead to dramatic increases in expenditures. In addition, cost-based payment can lead to substantially different payments for the same service provided in different hospitals in the same area. Finally, because the outpatient PPS has already been implemented, a return to cost-based payment would require a new billing system. We would also return to a system in which payments for an individual service cannot be accurately measured. ■

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