JUNE 2001

REPORT TO THE CONGRESS

Medicare in Rural America

MEDPAC Medicare Payment Advisory Commission

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MEDPAC Medicare Payment Advisory Commission

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Table of contents

Tables ..... **vii**

Figures ..... **xi**

Executive summary ..... **xiii**

Chapters

1 Medicare and rural health care: overview and challenges for policymakers **1**

What is rural? **5**

Rural health care **6**

How rural markets differ **8**

Medicare beneficiaries' use of services **14**

Potential implications for Medicare and other public policies **20**

2 Rural beneficiaries' access to care **23**

Assessing rural beneficiaries' access to care **26**

Programs to address rural access problems **33**

3 Quality of care in rural areas **39**

Quality of care delivered to rural beneficiaries **42**

Quality improvement and assurance in rural areas **45**

4 Improving payment for inpatient hospital care in rural areas **53**

A framework for considering rural payment provisions **56**

Financial performance of rural hospitals **60**

Policy options that do not target payments to specific cost factors **62**

Specific problems and solution options **65**

Inpatient psychiatric care **82**

5 Assessing payment for outpatient hospital care in rural areas **87**

Paying for outpatient services in rural hospitals **90**

Applicability of the outpatient payment system to rural hospitals **91**

Limitations of the evidence **98**

Future policy options **98**

6 Prospective payment for home health services in rural areas **103**

Evolving to the current system **106**

Components of the prospective payment system **106**

Home health agency closures **109**

Need for better data **110**

7 Bringing Medicare+Choice to rural America **113**

Little progress to date **116**

Why are Medicare+Choice coordinated-care plans unlikely to enter rural areas? **118**

The private fee-for-service option **120**

Other options **121**

Conclusion **122**

8 Reviewing the estimated payment update for physician services **125**

Updating payments for 2002 . . . . . **128**

Replacing the sustainable growth rate system **130**

Appendixes

A Clinically based indicators of access to care for Medicare beneficiaries **133**

B Summary of Medicare's special payment provisions for rural providers and criteria for qualification **139**

C Financial performance of rural hospitals and the value of special payment policies **145**

D Commissioners' voting on recommendations **157**

Acronyms **163**

More about MedPAC

Commission members **169**

Commissioners' biographies **171**

Commission staff **175**

Tables

1 Medicare and rural health care: overview and challenges for policymakers 1

1-1 Percentage of rural hospital markets with selected characteristics, by region . . . **11**

1-2 Isolated and low-volume hospitals, by location **14**

1-3 Rural hospital diversification, by location **14**

1-4 Per capita use of services by beneficiaries in traditional Medicare, by type of service and location of county, 1999 . . . . . **19**

2 Rural beneficiaries' access to care 23

2-1 Selected beneficiary characteristics, by location of county, 1999 . . . . . **28**

2-2 Beneficiary satisfaction with care, by location of county, 1999 . . . . . **29**

2-3 Beneficiary access to care, by location of county, 1999 . . . . . **31**

2-4 Beneficiary insurance status, by location of county, 1999 . . . . . **32**

3 Quality of care in rural areas 39

3-1 Aggregate use of recommended services by beneficiaries in 1998–1999, by location of county **43**

3-2 National health improvement clinical topics and performance indicators for the peer review organizations **46**

4 Improving payment for inpatient hospital care in rural areas 53

4-1 Policy options for inpatient hospital care covered by the Medicare prospective payment system in rural areas **57**

4-2 Hospital financial performance, by urban and rural location, 1999 . . . . . **60**

4-3 Total value of Medicare special payment provisions for urban and rural hospitals, 2000 . . . . . **61**

4-4 Hospital financial performance, by urban and rural location, 1999 . . . . . **61**

4-5 Financial performance of hospitals, by discharge volume, 1999 . . . . . **66**

4-6 Distribution of low volume hospitals, by hospital type, 1997 . . . . . **67**

4-7 Impact on Medicare inpatient margins of implementing a low-volume adjustment with an access-related eligibility requirement **69**

4-8 Percentage change in wage index and prospective payment system payments under selected policies **73**

4-9 Hospitals sheltered by labor market average wage rate **76**

4-10 Hospitals affected by a wage index floor of 0.9, by financial status under Medicare's inpatient prospective payment system, fiscal year 1999 . . . . . **76**

4-11 Impact on Medicare inpatient margins of phasing out teaching salaries and certified nurse anesthetists **77**

4-12 Components of national labor share for hospital inpatient care **79**
4-13 Effect of wage index adjustment on labor share **79**
4-14 Urban and rural hospitals' shares of low-income patient costs and disproportionate share payments **81**
4-15 Impact on Medicare inpatient margins of raising the cap on disproportionate share payments to 10 percent **81**
4-16 Payment formulas required to implement MedPAC's recommendation on disproportionate share payments **82**
4-17 Patient and psychiatric facility characteristics, by facility type and urban or rural location **83**
4-18 Hospital-based units' length of stay and cost per case **84**

5 Assessing payment for outpatient hospital care in rural areas 87
5-1 Medicare costs as percent of total hospital costs, 1999 . . . . . **91**
5-2 Outpatient costs as percent of total Medicare costs, 1999 . . . . . **93**
5-3 Medicare margins, by hospital type, 1999 . . . . . **93**
5-4 Outpatient service mix, urban and rural hospitals, 1999 . . . . . **95**
5-5 Outpatient service mix, rural hospitals, 1999 . . . . . **96**
5-6 Future policy options for outpatient payments to rural hospitals **99**

6 Prospective payment for home health services in rural areas 103
6-1 Total admissions to home health, by diagnosis, urban and rural agencies **108**
6-2 Home health visits and therapy visits, by location of patient's county of residence, 1999 . . . . . **109**
6-3 Home health visits, by location of patient's county of residence and location of agency, 1999 . . . . . **109**
6-4 Number of home health agencies, by ownership of facility, 1997 and 2001 . . **110**

7 Bringing Medicare+Choice to rural America 113
7-1 Percentage of beneficiaries with any Medicare+Choice health maintenance organization in their county in 2001, by location of county and 2000 payment rate **117**
7-2 For beneficiaries with a health maintenance organization available, prescription drug coverage and premiums in 2001, by location of county **118**

8 Reviewing the estimated payment update for physician services 125
8-1 HCFA estimates of factors in sustainable growth rates, 2001–2002 . . . . . **129**
8-2 HCFA estimate of the update for physician services for 2002 . . . . . **130**

Appendixes

A Clinically based indicators of access to care for Medicare beneficiaries **133**

A-1 Clinically based indicators of access to needed care for elderly Medicare beneficiaries with certain diagnoses **136**

C Financial performance of rural hospitals and the value of special payment policies **145**

C-1 Inpatient Medicare, overall Medicare, and total margins, by rural hospital groups, 1999 . . . . . **149**

C-2 Hospital Medicare inpatient margin and percent of hospitals with negative margin, by hospital location, 1999 . . . . . **150**

C-3 Hospitals in special payment policy groups, by urban and rural location, 2000 . . . . . **150**

C-4 Rural special payment groups: number receiving additional payments and value of payments, 2000 . . . . . **151**

C-5 Value of payment policies that affect both urban and rural hospitals: geographic reclassification, disproportionate share, and indirect medical education payments, 2000 . . . . . **151**

C-6 Value of special payment provisions for urban and rural hospitals, 2000 . . . . . **152**

C-7 Hospital total margin and percent of hospitals with negative margin, by hospital location, 1999 . . . . . **155**

Figures

1 Medicare and rural health care: overview and challenges for policymakers 1

1-1 Defining urban and rural 5

1-2 Locations of rural hospitals 6

1-3 Definition of urban influence codes 7

1-4 Rural markets with small population base 10

1-5 Rural markets with declining and aged populations 10

1-6 Rural markets with low income and high unemployment 12

1-7 Rural markets with a disproportionate minority population 12

1-8 Isolated rural hospitals 13

1-9 Low-volume rural hospitals 13

1-10 Urban and rural beneficiaries use similar amounts of services, but use rates differ among regions 16

1-11 Counties with high and low use of services 17

4 Improving payment for inpatient hospital care in rural areas 53

4-1 Relationship between hospital discharge volume and costs per case, 1997 66

4-2 Cumulative change in length of stay, by location of hospital (UIC), 1990–1999 70

4-3 Distributions of hospital wage index values among urban and rural labor markets in fiscal year 2001 72

4-4 Hospital wage rates in low-wage areas are higher than expected 74

4-5 Medicare inpatient margins by wage index value, urban and rural hospitals, 1999 75

4-6 Labor market areas for the hospital wage index 78

5 Assessing payment for outpatient hospital care in rural areas 87

5-1 Outpatient volume-cost relationship, 1996 98

7 Bringing Medicare+Choice to rural America 113

7-1 2001 Medicare+Choice payment rates 117

8 Reviewing the estimated payment update for physician services 125

8-1 Medicare Economic Index, 1992–2002 129

Appendixes

C Financial performance of rural hospitals and the value of special payment policies **145**

C-1 Medicare inpatient hospital margin, by urban and rural location, 1990–1999 . **148**

C-2 Percent change in cost per case, urban and rural hospitals, 1991–1999 . . . . . **148**

C-3 Percent change in length of stay, urban and rural hospitals, 1991–1999 . . . . . **149**

C-4 Overall Medicare margin including graduate medical education, urban and rural hospitals, 1996–1999 . . . . . **153**

C-5 Private payer and Medicaid payment-to-cost ratios, urban and rural hospitals, 1992–1999 . . . . . **153**

C-6 Medicare, Medicaid, and private-payer cost share, urban and rural hospitals, 1999 . . . . . **154**

C-7 Total margin, urban and rural hospitals, 1990–1999 . . . . . **154**

Executive summary

Executive summary

Medicare beneficiaries living in rural areas face many barriers to getting the medical care they want and need. Some barriers relate to distance and population density, and others to economic conditions—all may vary widely over the broad spectrum of conditions in rural areas. Providers, especially specialists, are relatively scarce in rural areas and the financial burden of obtaining care is often greater for rural than for urban beneficiaries because they tend to have lower incomes and less supplemental insurance or access to Medicare+Choice coordinated-care plans.

Despite these barriers, rural Medicare beneficiaries do not seem to be measurably disadvantaged compared with urban beneficiaries. The Commission's analyses suggest that they are about as likely to get needed care, just as satisfied with the care they receive, and use about as much health care on average as their urban counterparts, albeit a slightly different mix of services. Overall, rural beneficiaries and providers have adapted to and often overcome barriers in rural areas, although not without some inconvenience and cost. When necessary, beneficiaries travel to more urban areas for needed specialized care and specialists travel to rural areas.

However, not all barriers can be overcome. Many rural providers are experiencing financial hardship, and providers may not be able to remain in markets in which economic and demographic conditions are especially unfavorable. In those cases Medicare may not be the sole, or even the principal, problem.

The fragility of the rural health care system calls for continued vigilance and special care to ensure that Medicare policies do not weaken rural medicine inadvertently and that, where appropriate, they reflect the special circumstances confronting rural beneficiaries and providers. Following this path, we recommend a number of incremental changes in Medicare that will improve the accuracy of Medicare payments by recognizing factors such as the volume of services that affect the costs of providing care in rural areas. Implementing these recommendations should improve the financial standing of many rural providers. We also recommend changes that may improve access for some financially disadvantaged beneficiaries and improve oversight of the quality of care.

In the Balanced Budget Refinement Act of 1999, the Congress required the Medicare Payment Advisory Commission to study and report on the adequacy and appropriateness of Medicare's payment policies for services furnished by various types of providers located in rural areas. This report examines the Congress' questions and how Medicare is working for rural beneficiaries. Although we focus primarily on payment and other policies in Medicare's traditional program, we also examine issues affecting rural beneficiaries' access to health plans in the Medicare+Choice program.

Medicare and rural health care: overview and challenges for policymakers

Policymakers and rural health care advocates have long been concerned that Medicare beneficiaries and others living in rural areas may not receive the care they need. The geographic isolation, low population density, and poor economic conditions in many rural areas impose economic hardships on providers and make it difficult to attract health professionals. In Chapter 1 we describe those concerns, how market conditions vary among rural areas, and how those variations affect rural providers and beneficiaries. Our analyses confirm that some rural communities face adverse economic conditions that may limit providers' abilities to furnish needed services. Nevertheless, Medicare beneficiaries in rural areas receive similar amounts of health services, on average, as do urban beneficiaries. Although similar use rates do not guarantee that rural and urban beneficiaries receive equally appropriate and effective care, this finding suggests that

major new Medicare policy interventions may not be needed to preserve rural beneficiaries' access to high-quality care. Some incremental changes may be helpful in better adapting Medicare's policies to rural market conditions. Because the stresses facing rural providers often reflect broader market conditions, however, Medicare policy changes alone may not be enough to resolve them fully.

Rural beneficiaries' access to care

Promoting beneficiaries' access to medically necessary health care of high quality is one of the primary objectives of the Medicare program. Rural areas of the country are believed to present more obstacles to beneficiaries' access than more urban areas. However, in Chapter 2 we show that on numerous measures, including satisfaction with availability of providers, ease of getting care, and frequency of receiving needed care, rural and urban beneficiaries appear strikingly similar. Although beneficiaries in the most remote areas report somewhat greater barriers to accessing care, in general rural beneficiaries do not appear to be singularly disadvantaged relative to urban beneficiaries. Overall, rural beneficiaries' greatest potential barrier to care appears to be the cost of care, which may be related to the limited number of rural beneficiaries with supplemental insurance. The Commission is concerned about this problem and recommends identifying strategies to increase eligible rural beneficiaries' participation in government cost-sharing assistance programs. Interpreting the larger policy implications of these findings is complex. Have the programs designed to address the availability of rural providers been successful, or have the barriers to access in rural areas been overestimated and the resourcefulness and adaptability of beneficiaries and providers underestimated? As these issues are further examined, the findings suggest that policymakers should remain vigilant in monitoring access issues in remote rural areas.

Quality of care in rural areas

In the past, rural quality of care issues have received little attention in Medicare policymaking. In Chapter 3, we present largely encouraging results on rural quality of care, but also point to some problems with Medicare's systems for improving and safeguarding quality in rural areas. Quality of care, as measured by the use of recommended services, is roughly comparable among rural counties of varying proximity to metropolitan areas, as well as between rural and metropolitan areas. However, a considerable proportion of beneficiaries in both rural and urban areas are not receiving recommended services. Consequently, the Commission recommends strengthening Medicare's systems for influencing quality in rural areas by requiring the peer review organizations to include rural populations and providers when carrying out their quality improvement activities, and by surveying at least one-third of each facility type annually to certify compliance with the conditions of participation in Medicare.

Improving payment for inpatient hospital care in rural areas

The financial status of rural hospitals continues to be a source of concern for policymakers. Rural hospitals have had lower Medicare inpatient margins than urban hospitals throughout the 1990s, and the gap has widened from less than a percentage point in 1992 to 10 percentage points in 1999. This pattern applies not just to inpatient care but across all major lines of Medicare business, with rural hospitals' overall Medicare margin dipping below zero. This growing imbalance in Medicare financial performance has occurred despite special programs targeted to rural hospitals with specific characteristics such as rural referral, Medicare dependent, critical access, and sole community hospitals. Although some of the difference in performance may be within hospitals' control, the size of the gap suggests that the payment system does not recognize factors that have a greater effect on the costs of rural hospitals, and perhaps overemphasizes those with a greater effect on urban hospitals.

In Chapter 4 we recommend addressing these problems by improving the existing prospective payment system to match payments better to efficient providers' costs, rather than by moving further toward cost-based payment. We identify aspects of Medicare's prospective payment system for inpatient hospital care that tend to work against rural hospitals and recommend several incremental improvements. First is to develop a graduated adjustment to the rates used in the inpatient prospective payment system for hospitals with low overall volumes of discharges. Second is to implement fully the policy of excluding teaching physicians, residents, and certified registered nurse anesthetists from the hospital wage index. Third is to reexamine the proportion of providers' costs assumed to reflect resources purchased in local markets in the wage index. The second and third actions will raise the relative wage index values for most rural hospitals. We also recommend raising the cap on the disproportionate share add-on a rural hospital can receive from 5.25 percent to 10 percent. These first four recommendations would improve the accuracy of the inpatient prospective payment system and better account for differences in market circumstances among hospitals. Finally, we recommend requiring that rural referral centers' wages exceed the average wage in their area to qualify for geographic reclassification. After these recommendations have gone into effect, the results should be evaluated before additional steps are taken.

The Congress also required the Commission to analyze unit costs at psychiatric facilities that are exempt from the prospective payment system. We found that government-owned facilities—which treat a more disabled beneficiary population and one that is more likely to be involuntarily committed—are disadvantaged by the current payment system because it does not recognize these differences in population characteristics. We also found that rural hospital-based psychiatric units appear to have higher unit costs. We recommend revising the current payment system's target cap in a way that better addresses differences among inpatient psychiatric facilities.

Assessing payment for outpatient hospital care in rural areas

Do rural hospitals face special circumstances that make the new outpatient prospective payment system inappropriate for them? If rural hospitals have high costs for providing outpatient services, the new payment system will not adequately cover their costs to provide care because it pays rates based on median costs for all hospitals. In Chapter 5, we evaluate whether 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. They rely more on Medicare and on outpatient services as sources of revenue than do urban hospitals, increasing their exposure to the financial risks of prospective payment. At the same time, they tend to have limited administrative capacity and financial reserves, hence limited ability to manage financial risk. Finally, available cost data suggest 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, when better information on hospitals' experience with the new payment system is available, other policies may be warranted.

Prospective payment for home health services in rural areas

Should rural home health services be exempt from the new prospective payment system? Rural health care advocates, among others, have suggested that the new payment system may not adequately account for unique conditions in rural areas. Lack of experience with the new system and other data limitations prevent a direct comparison of the costs in rural and urban areas. However, we conclude in Chapter 6 that the components of the new payment system should work equally well in rural and urban areas. Accordingly, we

recommend that rural home health services not be exempt from the prospective payment system. We also recommend that data collection be improved to assess whether any higher costs associated with providing home health services in rural areas are adequately taken into account.

Bringing Medicare+Choice to rural America

Why are Medicare+Choice benefit packages that include extras such as low cost sharing and prescription drugs available to beneficiaries in some urban areas but not widely available to those in rural areas? Despite efforts of the Congress to attract Medicare+Choice managed-care plans to rural areas by revising the payment structure, few such plans are available in rural areas, and the benefit packages they bring with them are not as generous as those offered in some urban areas. In Chapter 7, we conclude that the basic market characteristics shared by many rural areas—including a limited number of providers and a dispersed population—will likely continue to frustrate those efforts because they make it difficult for plans to generate sufficient efficiencies or provider discounts to fund generous benefit packages. A non-network, private fee-for-service option has become available in some rural areas, but (like other options discussed in the chapter) it, too, is unlikely to generate efficiencies or provider discounts, and therefore can only bring generous benefit packages to rural beneficiaries by inappropriately increasing Medicare program costs.

Reviewing the estimated payment update for physician services

Medicare payments for physician services are updated annually based on the sustainable growth rate system, which is designed to control overall spending. Chapter 8 fulfills the Commission's mandate to review the Health Care Financing Administration's (HCFA's) preliminary estimate of the update for 2002. The Commission concludes that the agency's current estimate of the update, −0.1 percent, appears reasonable. As required by law, the agency will revise the estimate and issue a final update this fall. The Commission notes that the final update for 2002 may be lower, perhaps significantly lower, than HCFA's current estimate, which may raise concerns about the adequacy of payments and beneficiary access to care. Such an update would limit physician spending for the first time since enactment of the sustainable growth rate system and illustrates the Commission's concern that updates under the system are not closely related to the cost of providing physician services. Therefore, the Commission reiterates its recommendation to replace the sustainable growth rate system with an update method that better accounts for the cost of providing care, and that policymakers should consider alternatives to that system if spending control is necessary. ■

CHAPTER 1

Medicare and rural health care: overview and challenges for policymakers

CHAPTER 1

Medicare and rural health care: overview and challenges for policymakers

In this chapter

- What is rural?
- Rural health care
- How rural markets differ
- Medicare beneficiaries' use of services
- Potential implications for Medicare and other public policies

Policymakers and rural health care advocates have long been concerned that Medicare beneficiaries and others living in rural areas may not get all of the care they need. The geographic isolation, low population density, and poor economic conditions in many rural areas impose economic hardship on existing providers and make it difficult to attract health professionals. In this chapter we describe these concerns, how market conditions vary among rural areas, and how those variations affect rural providers and beneficiaries. Our analyses confirm that some rural communities face adverse economic conditions that may limit local providers' abilities to furnish a broad array of needed services. Nevertheless, Medicare beneficiaries in rural areas receive similar amounts of health services, on average, as urban beneficiaries. Although similar use rates do not guarantee that rural and urban beneficiaries receive equally appropriate and effective care, this finding suggests that major new Medicare policy interventions may not be needed to preserve rural beneficiaries' access to high-quality care. Some incremental changes may be helpful in better adapting Medicare's policies to rural market conditions. Because the stresses affecting rural providers often reflect broader market conditions, however, Medicare policy changes alone may not be enough to resolve them fully.

In the Balanced Budget Refinement Act of 1999 (BBRA), the Congress required that the Medicare Payment Advisory Commission (MedPAC) study and report on several issues concerning Medicare's payment policies for rural providers. Two of these studies focus on the adequacy and appropriateness of payments to rural providers under the new prospective payment systems (PPSs) for hospital outpatient department services and home health care. Another study must evaluate the effectiveness of various special payment provisions for rural hospitals under the hospital inpatient PPS and their impact on beneficiaries' access to services and the quality of the care they receive. Finally, a fourth study focuses on whether low-volume hospital-based psychiatric facilities located in rural areas have higher costs per discharge than other inpatient psychiatric providers.

These topics reflect several concerns shared by rural policymakers, providers, and health care advocates. One is concern about the effects on rural providers of Medicare policy changes enacted in the Balanced Budget Act of 1997 (BBA). This concern is largely driven by a perception that the health care infrastructure in many rural communities is financially fragile and thus especially sensitive to changes in Medicare's policies, even those that might have little impact under other circumstances. In addition, because rural health care providers often account for a substantial share of local employment and are viewed as indispensable in attracting new businesses to the local economy, increases in their financial stresses are seen as threatening the community's survival.

Another widely shared concern is that Medicare's nationally determined policies do not adapt appropriately to the diversity of local conditions and needs in rural areas. Some of this concern reflects a judgment that Medicare's payment policies under the traditional program fail to account adequately for local market factors that affect rural providers' costs but are beyond their control. Questions are also frequently raised about whether Medicare's administrative policies—conditions of participation or billing rules, for instance—make sufficient allowance for rural providers' limited administrative capabilities.

Underlying these concerns are more fundamental fears. The ever-rising technological sophistication and expense of modern medical care, coupled with weak economic conditions in many rural markets, challenges rural communities' abilities to preserve delivery systems capable of meeting their residents' health care needs. Medicare's policies may compound these difficulties in some rural areas, resulting in financial pressure for key providers and threatening access to local services for Medicare beneficiaries and other residents.

These concerns highlight important questions for policymakers:

- Do rural and urban beneficiaries receive similar amounts and mixes of health services?
- Do rural beneficiaries have appropriate access to high-quality care under the traditional program?
- Are national quality standards (and other uniform administrative requirements) appropriate for rural providers and plans?
- Do Medicare's payments to rural providers appropriately reflect differences in market conditions?
- What might be done to improve rural beneficiaries' access to alternative plans under the Medicare+Choice program?

We examine these questions in subsequent chapters of this report. In addition, we consider whether, and to what extent, the issues confronting rural providers and beneficiaries reflect limitations of Medicare's policies or problems beyond its scope. Finally, we make recommendations on how the Congress and the Health Care Financing Administration (HCFA) might respond to the problems identified.

In this chapter, we examine the diversity of conditions facing providers and beneficiaries in rural markets, related potential problems, and their implications for Medicare and other policies. We begin with a brief discussion of how rural areas and markets are defined. Then we describe key features of rural health care, summarizing the types of adverse conditions that rural providers and beneficiaries may be facing. The next section examines diversity among rural markets, focusing on important economic factors that may affect local demand for and supply of health services. Then we examine urban and rural beneficiaries' service use patterns to see whether differences in market conditions may be affecting the quantity or mix of care they receive. Finally, we consider the potential implications of market diversity for Medicare and other public policies.

Although preliminary, these analyses support two conclusions. One is that policymakers' concerns are well founded—many rural communities are facing a variety of adverse market conditions, including small and declining populations, a disproportionate share of aged residents, low household incomes, high unemployment, and disproportionate numbers of minority residents. Distinct combinations of these factors may affect local market demand for and supply of health services in different regions, with varying potential effects on beneficiaries' and other residents' access to high-quality care. These factors reflect the diversity of local markets, however, not the Medicare program.

The other conclusion is that the available evidence gives no indication that Medicare beneficiaries living in rural areas are facing widespread serious problems. On average, they receive health services that are similar in quantity and scope to those consumed by their urban counterparts. This does not mean that rural beneficiaries (or urban ones either) always get all of the care they need or the most appropriate and effective care. But it also does not suggest that they suffer from widespread major deficiencies compared with urban beneficiaries.

Nevertheless, Medicare has an obligation to adjust its payment policies to accommodate differences in market

conditions that would affect efficient providers' costs but are beyond their control. Medicare has not always adapted its policies appropriately, but necessary changes in those policies are not large. Adjustments are needed, not fundamental changes in direction.

What is rural?

The U.S. Bureau of the Census (Census Bureau) and the U.S. Office of Management and Budget (OMB) have developed definitions of urban and rural areas (Ricketts et al. 1999). In both systems, rural areas are defined by default, as areas that are not urban. The Census Bureau uses an expansive definition of urban areas based on population size and density. Urban areas include people, territory, and housing units in places with at least 2,500 people. Most urban residents, however, live in "urbanized areas" that include urban places with at least 50,000 people and surrounding areas with a population density of at least 1,000 people per square mile. Rural areas encompass everything not included in urban places.

OMB defines urban and rural areas based on the population size and density of counties. A metropolitan (urban) county may have a large city and suburbs or it may be a peripheral county that is economically and socially integrated with a city located in a nearby county. OMB also defines metropolitan areas and metropolitan statistical areas (MSAs), which consist of one or more central and well-integrated outlying counties; 868 U.S. counties were classified as metropolitan in 1998. The remaining 2,273 counties were considered nonmetropolitan (rural).

In 1990, the Census Bureau classified 24.8 percent of the population as rural, but almost half of these people lived in OMB-defined metropolitan counties.[1] Urban areas often account for only a small fraction of the total land area included in metropolitan counties (Figure 1-1). Similarly, about 10 percent of people classified as urban lived in nonmetropolitan counties; rural counties sometimes include urban places. Following the OMB definitions—rural residents are those who live in nonmetropolitan counties—would treat about 20 percent of the population as rural.

Medicare uses MSAs and nonmetropolitan counties in each state (statewide rural areas) to set payment rates for services furnished by facility providers—for example, hospital inpatient care, hospital outpatient services, or skilled nursing care (see Chapter 4).[2]

FIGURE 1-1

Defining urban and rural

Source: Analysis of U.S. census data by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

1 Comparable data from the 2000 census are not yet available.

2 Medicare uses a slightly modified version of OMB's definitions, reflecting a variety of statutory provisions that treat certain nonmetropolitan counties as if they were part of specified MSAs.

HCFA uses these areas to classify providers as urban or rural and to adjust Medicare's PPS payment rates to reflect geographic differences in market prices for labor inputs. This adjustment is based on an input-price index that HCFA calculates annually using MSAs and statewide rural areas to define 325 urban and 47 rural labor market areas. Rural hospitals are located only in nonmetropolitan counties; they are relatively dense in the East, South, and Midwest, but geographically dispersed in the West (Figure 1-2).

To describe differences among urban and rural areas, demographers have developed other definitions that are intended to capture nonmetropolitan counties' isolation or degree of ruralness based on their population density, whether they are adjacent to an urban area, the population of their largest town, or their total urban population. Frontier counties, for example, are considered the most isolated rural counties because they have fewer than seven people per square mile.

We often use urban influence codes (UICs) in this report to examine differences among rural areas. UIC codes divide counties into nine categories—two urban and seven rural (Ghelfi and Parker 1997). Urban categories are based on whether counties are included in a large MSA (with a population of 1 million or more) or a small one (population of less than 1 million). The seven categories for nonmetropolitan counties reflect whether or not a county is adjacent to an MSA and the size of its largest town (Figure 1-3). In this scheme, the most urbanized rural counties are those adjacent to an MSA and with a largest town of at least 10,000 people. The most rural counties (completely rural) are those not adjacent to an MSA and with a largest town of fewer than 2,500 people.

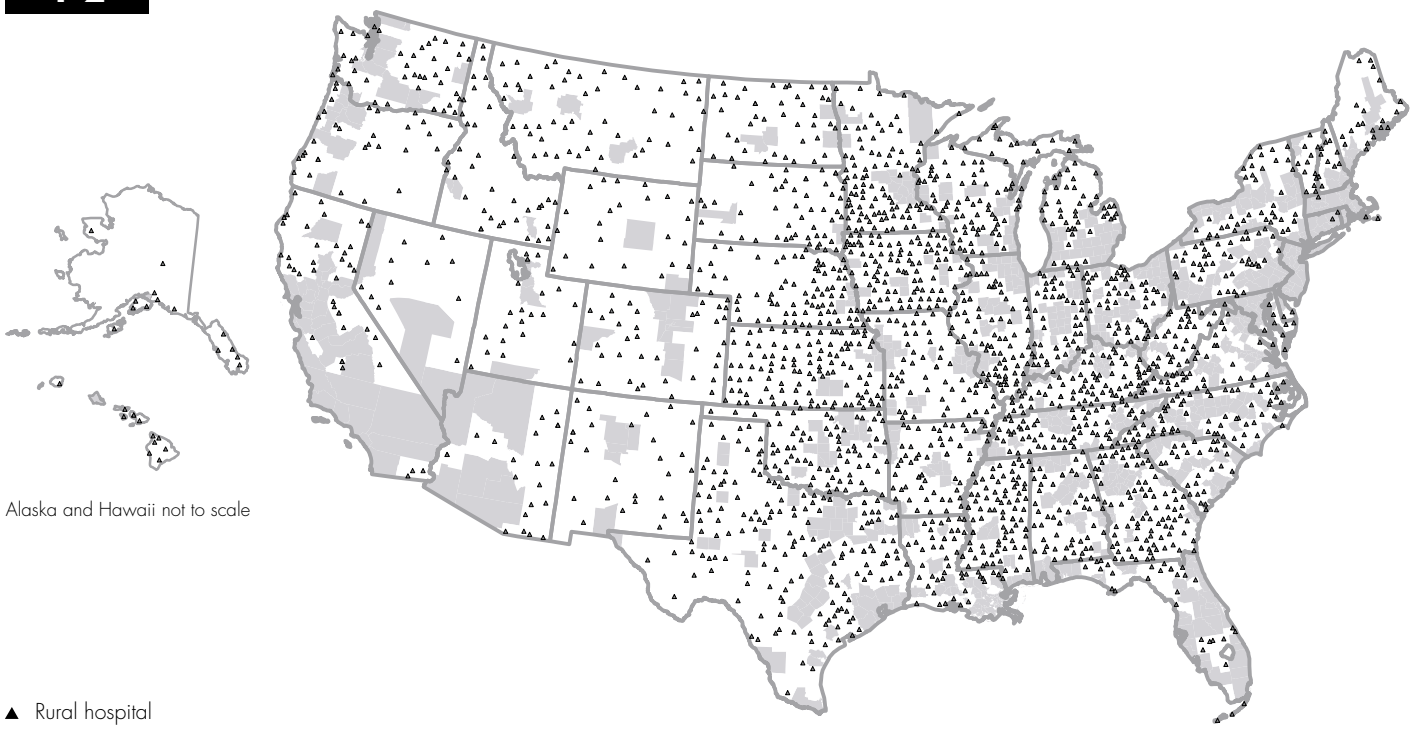
Rural health care

The research and policy literature on rural health care generally paints a gloomy picture of medical practice in rural areas. Furnishing health services in rural communities often entails overcoming multiple adverse conditions. Many rural areas are isolated, with long distances (or physical barriers, such as mountains or rivers) between towns and cities; these conditions are sometimes compounded by poor roads and bad weather (Williamson 2001). Further, rural areas often have a weak economic base with limited capacity to support modern health care delivery (Ricketts et al. 1999, Schur and Franco 1999, Rosenblatt 2001).

For the most part, the health care delivery system is market driven. Given a weak economic base, producing the full range of health care services with today's costly technologies is impossible for rural communities (Rosenblatt 2001). With small populations and limited diagnostic and therapeutic resources, few rural communities can attract physician specialists. In addition, many have difficulty attracting and retaining primary care physicians, well-trained support staff, and other practitioners, such as dentists or

FIGURE 1-2

Locations of rural hospitals

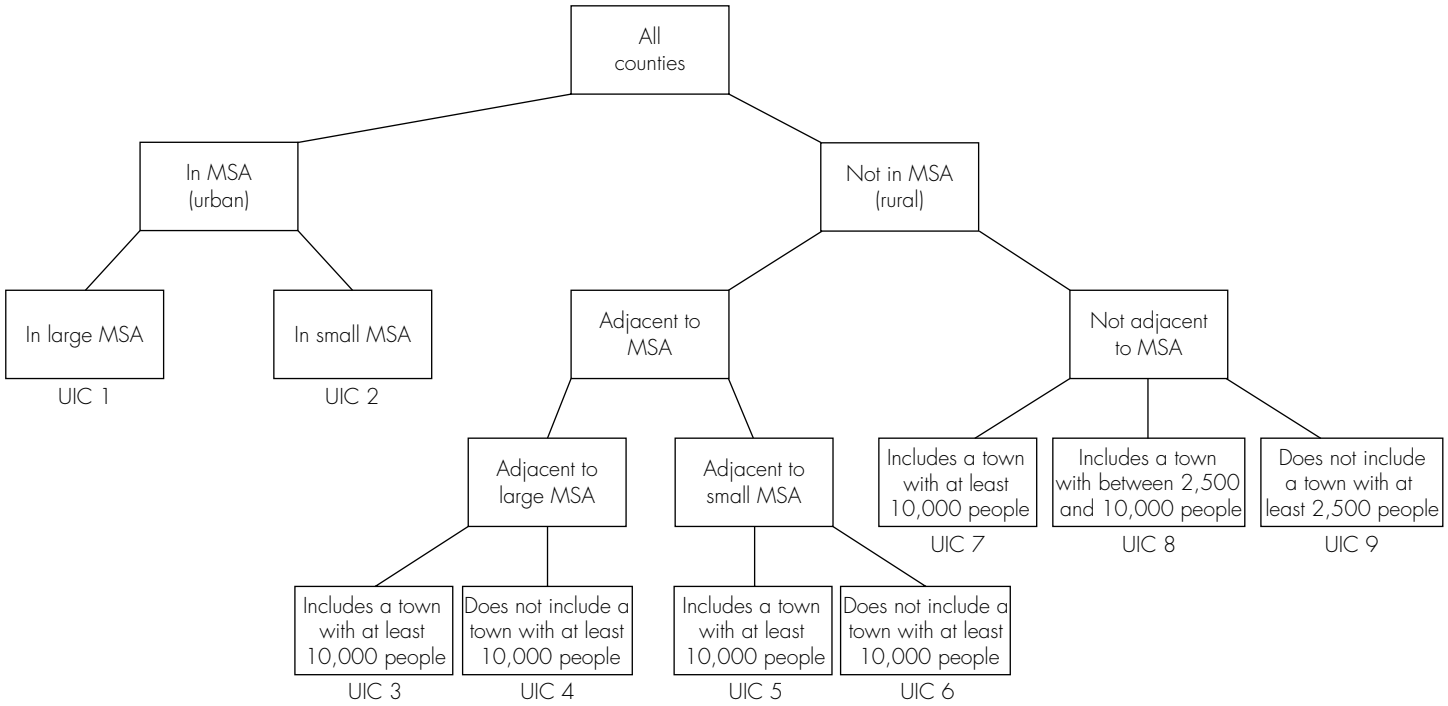


Note: Gray areas represent metropolitan counties, 1999.

Source: Analysis of hospital location data from HCFA by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

FIGURE 1-3

Definition of urban influence codes



Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

Source: Ghelfi and Parker (1997).

physical therapists. Rural counties account for about 20 percent of the population, but only about 10 percent of all active physicians.

The number of primary care physicians engaged in patient care per 100,000 people generally is lower in more rural counties (Rosenblatt and Hart 1999). Although the supply of family physicians and general practitioners is roughly even across counties with different UIC codes, internists, general surgeons, obstetrician-gynecologists, and pediatricians tend to be concentrated in counties that have one or more towns with at least 10,000 people.

Some rural areas face chronic shortages of health professionals and facilities. In general, these areas have four characteristics in common (Rosenblatt and Hart 1999):

- sparse population,
- extreme and persistent poverty,
- a high proportion of racial or ethnic minorities, and
- lack of physical and cultural amenities.

Federal and state programs attempt to fill the gaps in these areas with a combination of direct service programs, subsidized or cost-based payments to providers, and subsidized health insurance for low-income residents. These programs include Community and Migrant Health Services, the Indian Health Service, rural health clinics (RHCs), the National Health Service Corps, Medicaid, and the State Children's Health Insurance Program.

Rural practice also has been changing in response to the increasing complexity of medical technology and shifts in the organization of care (Rosenblatt 2001). The range of clinical practice once was defined by the set of services a general practitioner in solo practice could provide. General practitioners in solo practice, however, have been replaced by group practices of two to five physicians, often with support from other professionals, such as nurse practitioners, physician's assistants, or nurse midwives. In addition, many practices are now affiliated with some form of rural practice network based at a rural referral hospital or an urban hospital.

Affiliation with a network may bring a variety of benefits, such as administrative support, purchasing efficiencies, or greater access to capital. Increasingly, however, decisions about health care organization, administration, or payment are made by referral partners, insurers, or state and federal regulators who are not local and therefore may be insensitive to or ignorant of local needs.

How rural markets differ

Many rural communities face market conditions that may depress demand or supply, and potentially decrease access to and use of health services among beneficiaries and other residents. Depending on the community, these factors include:

- a small population,
- a declining and disproportionately older population,
- low household incomes, relatively high unemployment rates, and high poverty rates,
- a high proportion of the population lacking health insurance or with limited coverage,
- physical isolation, with long distances to urban centers for specialty care, and
- weak or restrictive state policies (for example, in Medicaid eligibility and payment policies, or certificate of need laws).

To explore further the diversity of conditions among rural markets, we contracted with the Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, to analyze data on population characteristics and health care supply. Because the health care delivery system in almost all rural markets is centered around one or more hospitals, we chose to use rural hospital markets based on patient origin data as the focus for this analysis (see text box).

Using hospital market definitions, the staff of the Sheps Center calculated totals, averages, or medians, as appropriate, for a range of variables, including market population, the percentage change in population between 1990 and 1999, proportions of the population by age group or household income, or percentage of the working-age population employed. These measures were based on ZIP-code level data purchased from Claritas Corporation and derived mainly from the 1990 census or later surveys carried out by the Census Bureau. The center staff then displayed summaries of the various measures in tables, charts, or maps.

Certain factors may affect beneficiaries' and other residents' access to nearby health services through their effects on service demand and financial outcomes for local providers. For example, a substantial proportion of rural hospitals serve small markets. The potential implications for service demand can be illustrated by some rough calculations.

One-quarter of all rural hospital markets include fewer than 11,900 people. Only about 10 percent of the population—20 percent of Medicare beneficiaries—is admitted for inpatient hospital care during a year. If they provided all of the inpatient care used by local residents, hospitals serving markets with 12,000 people would have about 1,200 admissions per year. With an average length of stay of 6 days, they would furnish 7,200 patient days per year, with patients occupying about 20 beds each day, on average. Perhaps one-half or more of patient stays, however, would entail relatively sophisticated services that require expensive equipment and specialized staff that are not available in small rural hospitals. These patients would go to larger rural or urban hospitals. Allowing for variability in admissions and lengths of stay for the remaining 600 patients, only about 10-15

Defining hospital markets and measuring market factors

Urban and rural hospitals' markets were defined by the staff of the Cecil G. Sheps Center based on the ZIP codes of origin—patients' residences—for their Medicare discharges. The staff defined markets by selecting ZIP codes in descending order of their contributions to hospitals' Medicare discharges, adding new ones until the cumulative area accounted for a preset percentage of hospitals' Medicare volume. The objective was to include all local ZIP codes that account for the bulk of a hospital's Medicare acute inpatient care without including remote areas that would have little effect on measured market conditions. Because many urban hospitals attract a substantial portion of their patients from surrounding rural areas, this goal was achieved with a Medicare volume threshold of 60 percent. Rural hospitals, however, attract most of their patients from nearby areas; thus, the threshold for rural markets was set at 80 percent.

This process produced hospital-specific markets made up of one or more ZIP codes. These markets are not mutually exclusive; two hospitals may draw substantial numbers of patients from the same ZIP code. Moreover, they are based on Medicare beneficiaries' observed use patterns, which reflect the current size and distribution of facilities, the health care delivery roles they have chosen, and beneficiaries' travel capabilities and preferences. Hospitals' characteristics and their market conditions are thus interrelated. Although their size and service capabilities generally reflect the size and characteristics of the local population, occasionally a large hospital with broad service capabilities may prosper in a rural area because it can draw patients from well beyond its local service area. The equilibrium also can change; if the supply or distribution of facilities changes through entry, exit, or conversion to some other use, the market areas, their populations, and other characteristics also would likely change. Similarly, changes in the number and mix of local industries and employers also might change the size and characteristics of the population, potentially causing providers to alter their size and capabilities. ■

beds would be needed in these small hospitals to meet local demand for routine inpatient care—even fewer if some residents patronized other nearby hospitals that also serve parts of the same market.

At this volume level, many hospitals would experience serious financial stress (see Chapter 4). The relatively high fixed costs of operating a hospital must be spread over few patients, raising the unit cost of care. Economies of scale associated with task specialization are not available at low volume. Unit costs also might be affected if—as advocates assert—hospitals in small or declining communities face higher costs in attracting and retaining physicians and other health professionals.[3] Other things being equal, higher unit costs resulting from any of these factors would lower hospitals' Medicare inpatient margins and their total margins.

The financial difficulties of operating at low volume may be compounded by other market factors, such as low household incomes or a high proportion of the population lacking health insurance.[4] These factors are likely to affect providers' financial viability by further reducing service volume or revenues for non-Medicare patients, perhaps increasing the burden of uncompensated care. Other things being equal, these factors could substantially reduce hospitals' total margins while having little effect on their Medicare inpatient margins.

Changing population demographics—particularly the emigration of working-age residents—also likely affect the amount and types of health facilities and practitioners rural communities need, and increase providers' vulnerability to policy changes in Medicare and state programs such as Medicaid. Providers in small or declining rural areas may be especially vulnerable to Medicare policy changes because program beneficiaries account for a larger share of their overall service volume and revenues compared with providers in other rural and urban areas. Further, these providers often derive a large share of their revenues from services furnished in settings—such as outpatient departments, skilled nursing facilities (SNFs), and home health agencies—that have been most affected by recent Medicare policy reforms.

Preliminary findings

Using the hospital market data, we analyzed the variation in many of these factors among market areas and geographic regions. We also explored the relationships between these market factors and hospitals' financial performance, including their Medicare inpatient margins and total margins. These analyses have thus far only scratched the surface of the complex relationships among the various market factors and between those factors and providers' financial performance. Nevertheless, our analyses appear to support several preliminary conclusions:

- Economic conditions vary widely among rural markets.
- Rural markets in the West have different sets of risk factors than those in the East.[5]
- The main risk factors in the West include combinations of markets with small populations, declines in market populations during the 1990s, and populations with disproportionate numbers of residents ages 65 or older. These factors raise the likelihood that providers will operate at low volume, which adversely affects providers' unit costs, Medicare inpatient margins, and total margins.
- The main factors operating in the East are more complicated, and how they interact is still murky. Hospital markets in the East often exhibit low household income and high unemployment rates. They also often have high proportions of racial and ethnic minorities. These factors appear to affect providers' total margins more than their Medicare inpatient margins, suggesting that much of the market weakness may be on the private side—perhaps primarily reflecting large numbers of people who lack health insurance.

Factors affecting hospital markets in the West

Population is one of the major factors that affects demand and supply in a market. Market population declines sharply for hospitals located in more rural counties (across UIC categories). This relationship holds across regions, but market population levels are generally twice as high in the East compared with the West, which probably reflects differences in population density across regions. Hospital markets with small populations—those with 11,900 or fewer people, the bottom quartile of the distribution of market population among rural hospital markets—are concentrated in the West, especially in the Plains states (Figure 1-4). Only 6 percent of rural markets in the East have small populations, compared with 40 percent of those in the West.

In addition to small populations, many hospital markets in the West experienced population declines during the 1990s—the ZIP codes included in the market area lost population between 1990 and 1999—and also had disproportionate numbers of residents ages 65 or older (Figure 1-5).[6] Of the 471 hospital markets in the West that have a small population base, 245 (52

3 The wage and salary data hospitals report annually do not appear to support this claim (see Chapter 4). Another possibility is that small hospitals face lower productivity and higher unit costs because they are unable to attract an efficient mix of staff given their mix of service outputs.

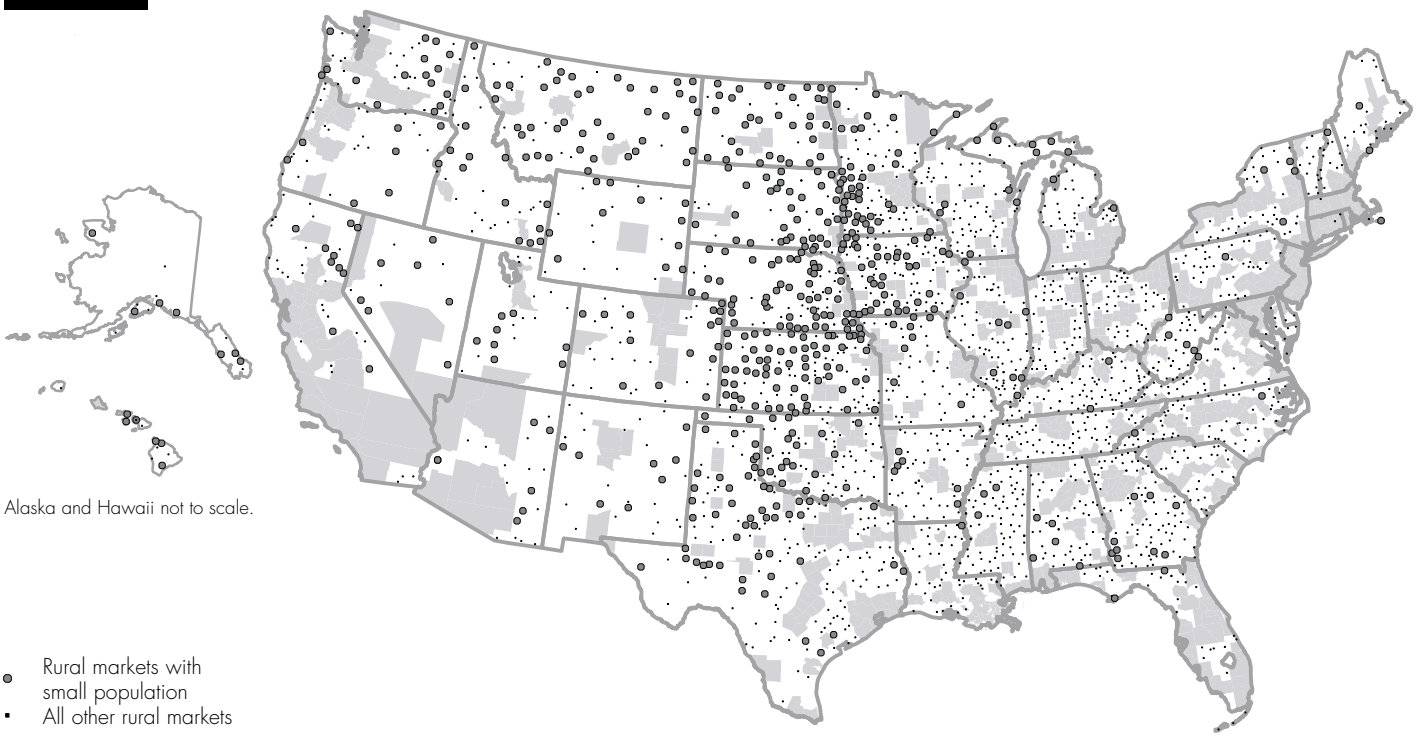
4 Unfortunately, we do not have ZIP code level information about the proportion of the population lacking health insurance.

5 The East and West regions are divided by the Mississippi river. The East includes New England, Middle Atlantic, South Atlantic, East South Central, and East North Central Census divisions; the West includes West South Central, West North Central, Mountain, and Pacific divisions.

6 ZIP code population estimates for 1999, which were used in estimating the average annual change in population for each hospital market after 1990, were based on population projections made by Claritas Corporation.

FIGURE 1-4

Rural markets with small population base

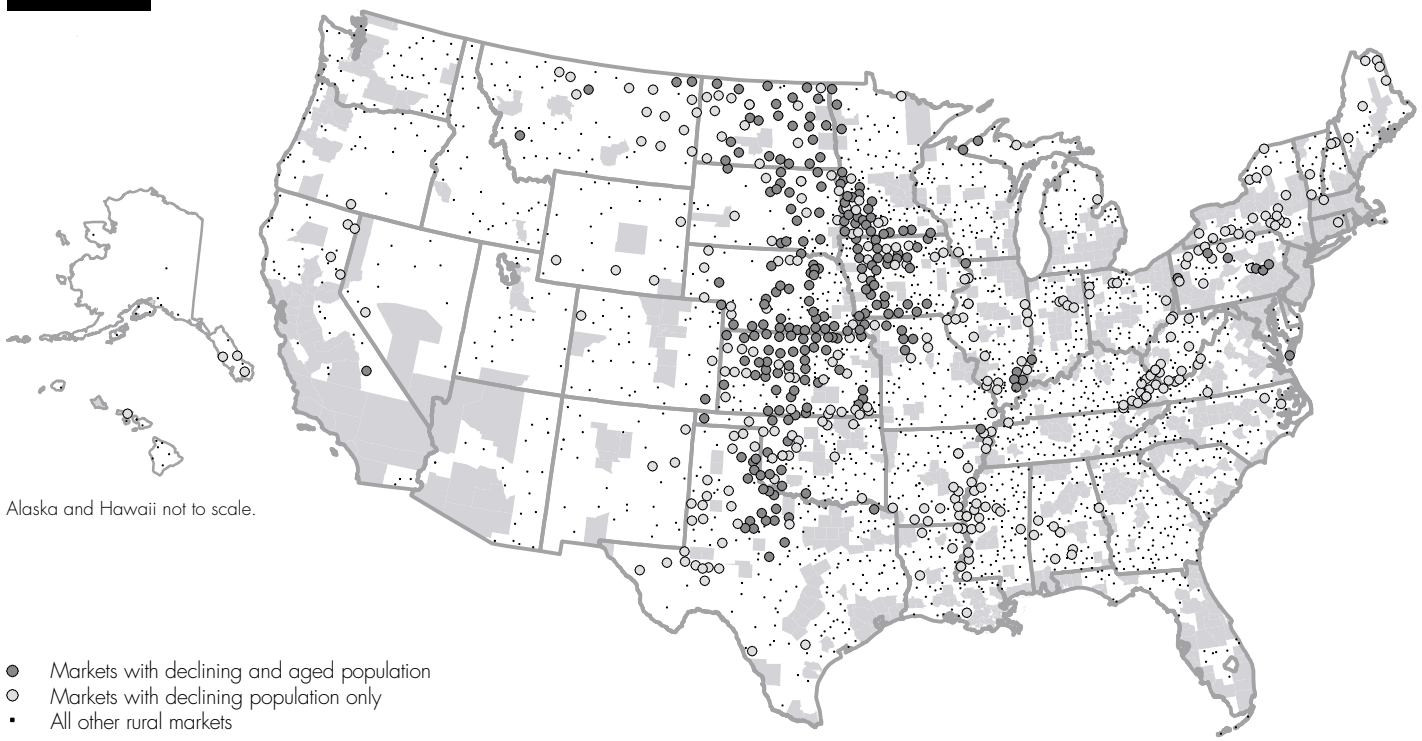


Note: Markets with small population had fewer than 11,900 residents in 1999. Gray areas represent metropolitan counties, 1999.

Source: Analysis of Claritas Corp. estimates based on 1990 census by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

FIGURE 1-5

Rural markets with declining and aged populations



Note: Markets with declining population lost −0.1 percent of total population annually between 1990 and 1999. Markets with declining and aged population also had 20 percent or more aged 65 or older. Gray areas represent metropolitan counties, 1999.

Source: Analysis of Claritas Corp. estimates based on 1990 census by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

percent) had population declines and 166 (35 percent) also had a high share of older residents (Table 1-1).

Markets with declining populations also occur in the East: along the Mississippi river, in Appalachia, in Western New York and Western Pennsylvania, and in northern New England. These markets usually include larger populations, however, and they generally do not have a disproportionate share of older residents.

Hospitals serving small markets tend to have poor financial outcomes, especially low total margins. Moreover, providers' total margins tend to deteriorate where the market population has been declining, and worsen further where the population is disproportionately 65 or older. Although other mechanisms may be involved in these relationships, a major one is that providers facing these conditions are highly likely to operate at low inpatient volume. Two-thirds of the hospitals serving small markets in the West have fewer than 500 acute discharges per year.

TABLE 1-1

Percentage of rural hospital markets with selected characteristics, by region

Market/hospital characteristic	All markets			Markets with small population		
	All	East	West	All	East	West
Small population	25.0%	6.0%	40.0%	100.0%	100.0%	100.0%
Declining population	24.3	14.6	32.1	49.6	28.3	52.1
Declining population and disproportionately aged	10.3	1.7	17.3	32.4	8.3	35.3
Low household income	44.7	45.5	44.1	48.7	65.0	46.7
High unemployment	30.2	35.1	26.2	21.1	55.0	17.0
Isolated location	18.5	7.3	27.6	34.3	18.3	36.3
Low volume	21.7	8.1	33.2	65.6	54.5	67.0

Note: East and West regions are divided by the Mississippi river; East includes New England, Middle Atlantic, South Atlantic, East South Central, and East North Central census divisions, while West includes West South Central, West North Central, Mountain, and Pacific divisions. Small population = fewer than 11,900 people; declining population = average annual population change from 1990 to 1999 of at least −0.1 percent; disproportionately aged = at least 20 percent of the population in the market ZIP codes is age 65 or older; low household income = median household income of the market area is <$28,100; high unemployment = percent of workforce that is not employed is greater than 8.1 percent; isolated location = air-mile distance to nearest short-term acute care hospital is ≥ 25 miles; low volume = 500 or fewer acute inpatient discharges in 1997.

Source: Analysis of Claritas Corp. estimates based on 1990 census by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Factors affecting hospital markets in the East

Many rural hospital markets in the East encompass populations with low household incomes; about 45 percent of all rural markets had median annual incomes less than $28,100—the bottom quartile of household income for all hospital markets (urban and rural) in 1999. About 30 percent of all markets had unemployment above 8.1 percent—the top quartile of the distribution in 1999. Finally, many hospital markets serve populations that include concentrations of racial or ethnic minorities.

Hospitals serving markets with any of these characteristics tend to have above-average financial performance under Medicare's inpatient PPS, but substantially below-average overall financial performance (total margins). Moreover, high unemployment tends to compound the effects associated with low household income, resulting in much lower total margins. These factors are often accompanied by concentrations of racial or ethnic minorities, which are also associated with above-average financial performance under the PPS but worse overall financial outcomes.

Hospital markets with low household incomes are located throughout the nation, but those with low incomes and high unemployment are concentrated in the East, in the Mississippi valley, Appalachia, and to a lesser extent near the Canadian border (Figure 1-6). Hospital markets with disproportionate minority populations are located predominantly in the South and Southeast (Figure 1-7). How and why these factors affect financial performance under Medicare's inpatient PPS and overall, however, remains unclear.

Isolation and low volume

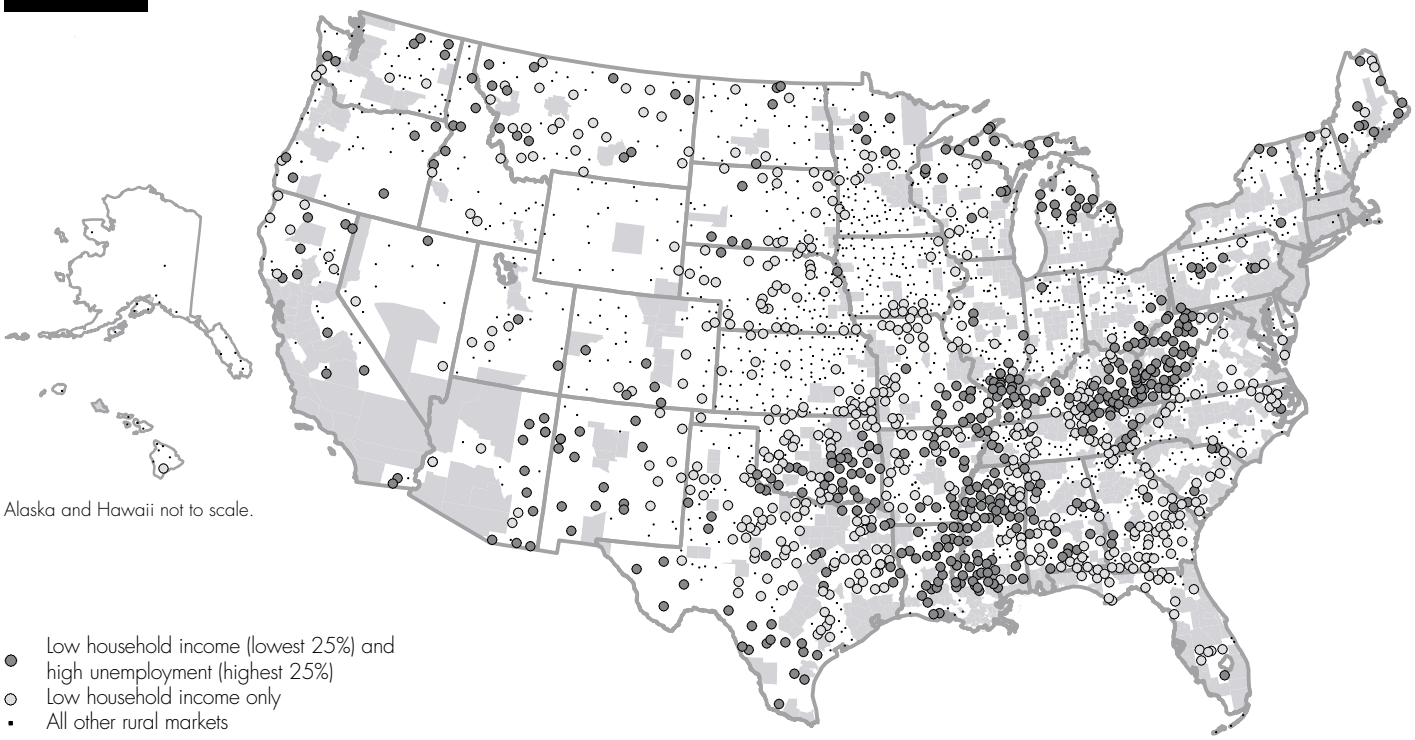
Rural health advocates have often cited rural hospitals' physical isolation as a potential risk factor for financial pressures that may threaten residents' access to care. The data, however, provide little evidence to support this concern. Most isolated rural hospitals—defined as those with no other acute-care hospital within 25 air miles—are located in the West (Figure 1-8).[7] Financial performance under the PPS, on average, is about the same for isolated providers as for all others, and they often have above-average total margins. These outcomes probably reflect to some extent the effects of Medicare's policies aimed at protecting isolated rural hospitals (see Chapter 4).

In contrast, hospitals that produce few inpatient discharges tend to have much lower Medicare inpatient and total margins than other providers. Low-volume providers are located primarily in the Midwest (Figure 1-9), but they are generally not isolated. About 14 percent of low-volume hospitals have another acute-care hospital within 10-15 road miles and half have another facility within 20-25 road miles (see Chapter 4). Finally, isolated and low-volume providers have little overlap across UIC categories (Table 1-2, see p. 14).

7 Air-mile distances are measured from the population center of a hospital's ZIP code to the ZIP code population center for the nearest hospital.

FIGURE 1-6

Rural markets with low income and high unemployment

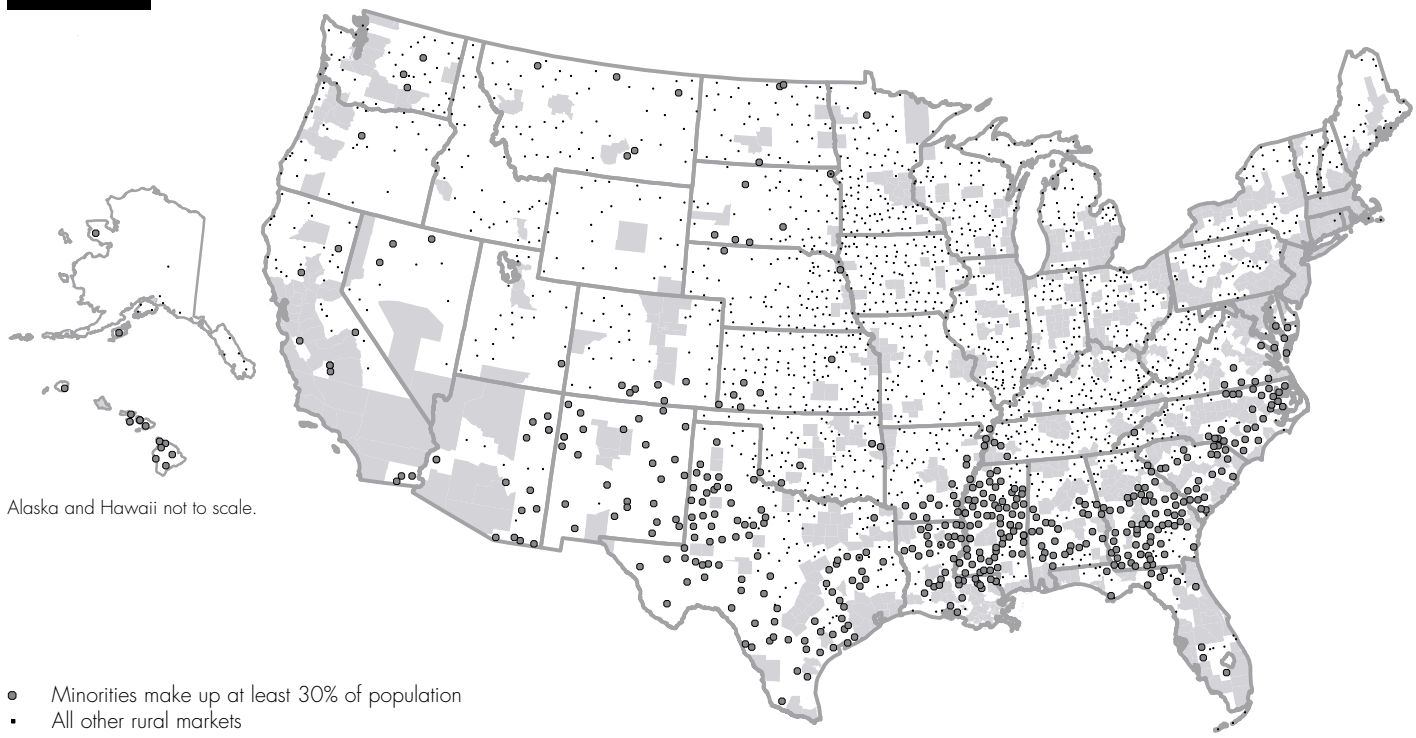


Note: Markets with low household income had median household income of less than $28,100 in1999. Markets with low household income and high unemployment also had more than 8.1 percent of resident workforce unemployed. Gray areas represent metropolitan counties, 1999.

Source: Analysis of Claritas Corp. estimates based on 1990 census by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

FIGURE 1-7

Rural markets with a disproportionate minority population

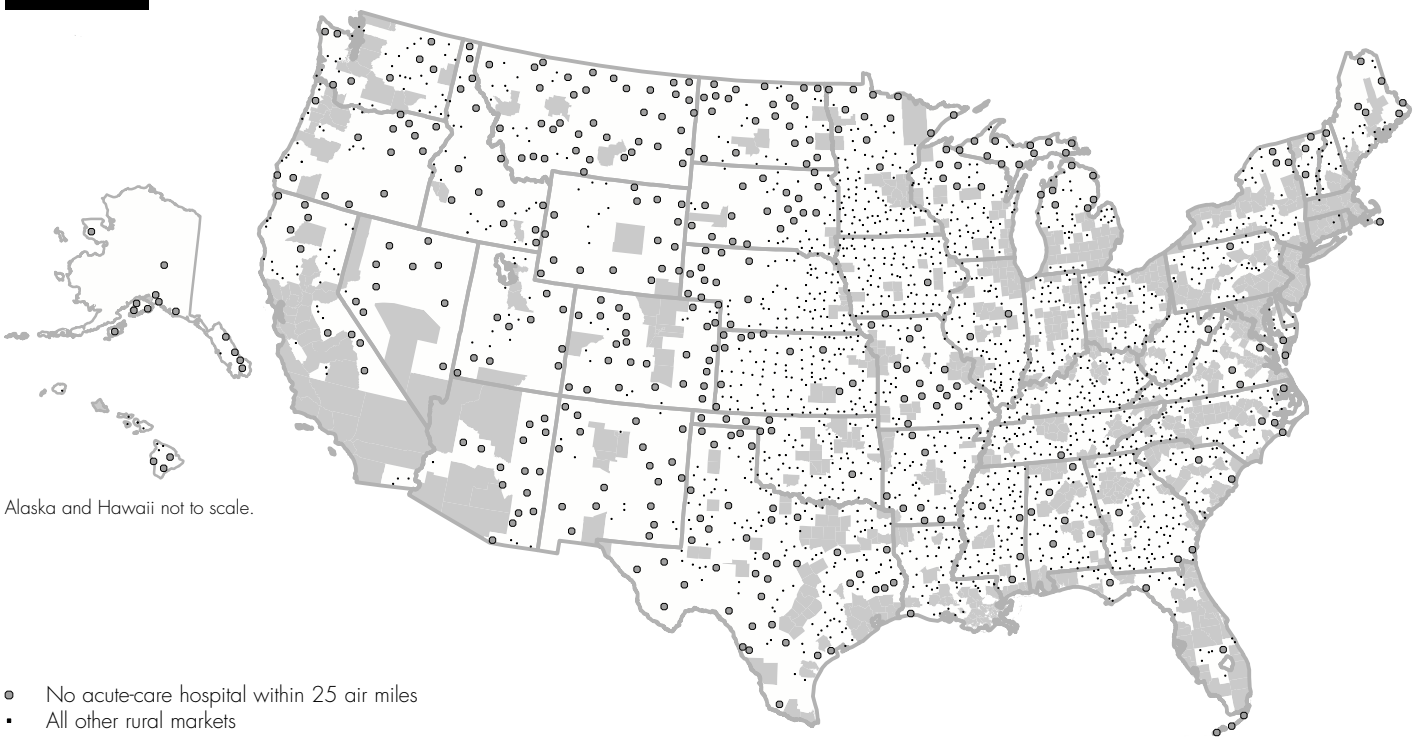


Note: Markets with disproportionate minority population had 30 percent or more non-white or Hispanic in 1999. Gray areas represent metropolitan counties, 1999.

Source: Analysis of Claritas Corp. estimates based on 1990 census by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

FIGURE 1-8

Isolated rural hospitals



Alaska and Hawaii not to scale.

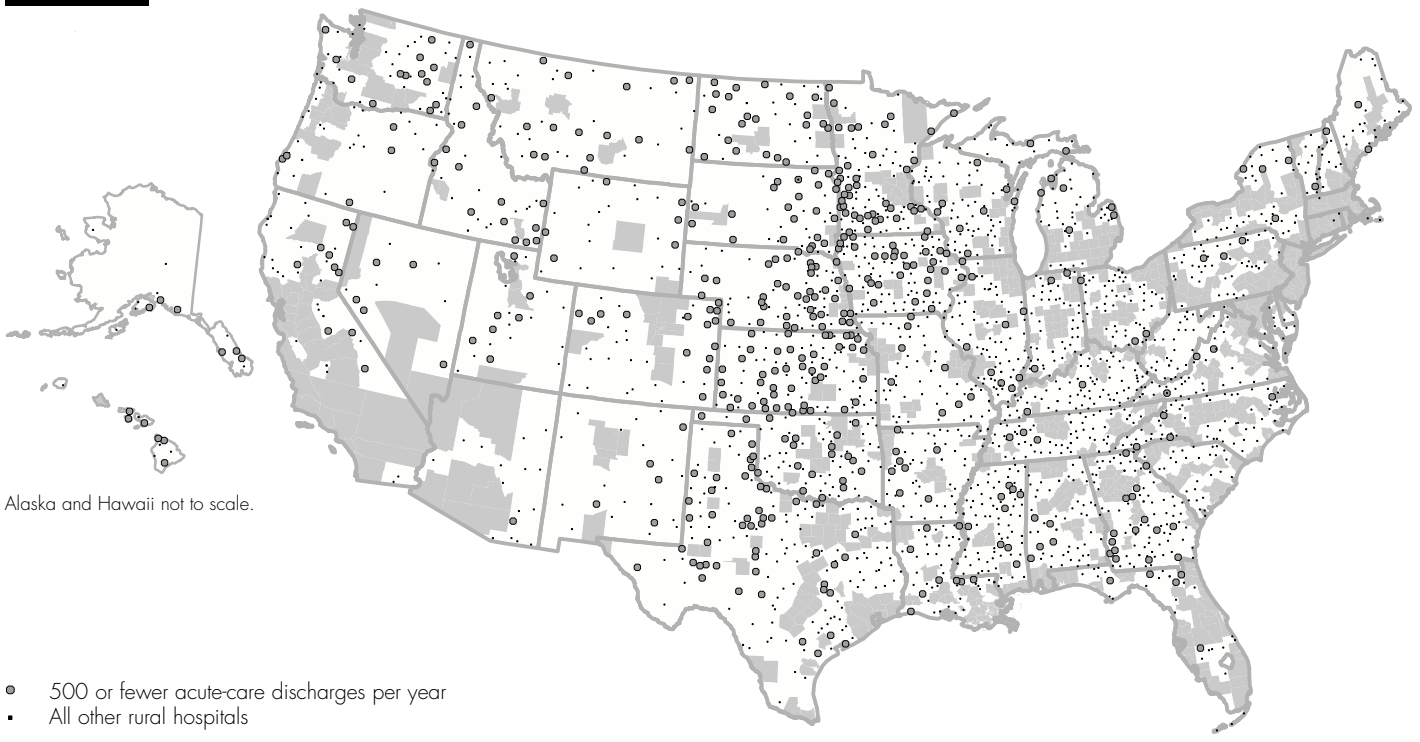
- No acute-care hospital within 25 air miles
- All other rural markets

Note: Air-mile distances computed from population centers of hospitals' ZIP codes. Includes all acute-care hospitals in HCFA files in 2000. Gray areas represent metropolitan counties, 1999.

Source: Analysis of HCFA survey and certification data for 2000 by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

FIGURE 1-9

Low-volume rural hospitals



Alaska and Hawaii not to scale.

- 500 or fewer acute-care discharges per year
- All other rural hospitals

Note: Gray areas represent metropolitan counties, 1999.

Source: Analysis of Medicare cost report data for 1998 by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

TABLE 1-2

Isolated and low-volume hospitals, by location

Location of hospital (UIC)	Number of hospitals	Isolated	Low-volume	Both
Adjacent to an MSA and includes a town with at least 10,000 people (3, 5)	349	9%	6%	1%
Not adjacent to an MSA but includes a town with at least 10,000 people (7)	314	20	10	3
Adjacent to an MSA but does not include a town with at least 10,000 people (4, 6)	623	13	23	4
Not adjacent to an MSA but includes a town with between 2,500 and 10,000 people (8)	595	23	19	5
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	271	28	59	21
All rural	2,152	18	22	6

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

Source: Analysis of HCFA survey and certification data for 2000 and Medicare cost report data for 1998 by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Providers' responses to market conditions

Providers in different markets offer different services (Table 1-3). Those in the most urbanized counties are much more likely than other rural hospitals to have SNFs (rather than swing beds), rehabilitation units, or psychiatric facilities. Hospitals in the most rural counties are much more likely to have swing beds and nursing facilities for long-term care; they are unlikely to have SNFs, rehabilitation units, or psychiatric units.

These data are consistent with findings from MedPAC visits to rural providers in 2000. Many rural facilities were using long-term care services and ambulatory care (outpatient and rural health clinic services) as their principal sources of revenue. Without these revenue streams, these hospitals probably would not be financially viable.

Medicare beneficiaries' use of services

Policymakers and rural health care advocates have often argued that beneficiaries and others living in rural areas are disadvantaged in obtaining needed care compared with their urban counterparts. This claim is certainly consistent with the weak market conditions just described and parallel suggestions in the literature that many rural residents face substantial obstacles in obtaining care, including low incomes, lack of health insurance, limited local health resources, and long travel distances and times to reach sources of care

TABLE 1-3

Rural hospital diversification, by location

Location of hospital (UIC)	Hospitals	Swing beds	Skilled nursing facility	Nursing facility	Any long-term care	Rehabilitation unit	Psychiatric unit	Home health
Adjacent to an MSA and includes a town with at least 10,000 people (3, 5)	363	30%	45%	9%	69%	16%	34%	30%
Not adjacent to an MSA but includes a town with at least 10,000 people (7)	326	33	53	8	78	18	30	30
Adjacent to an MSA but does not include a town with at least 10,000 people (4, 6)	625	65	32	11	82	3	13	28
Not adjacent to an MSA but includes a town with between 2,500 and 10,000 people (8)	598	67	28	12	82	2	12	31
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	271	90	26	20	95	1	7	27
All rural	2,183	59	35	12	81	6	18	30

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget). Counts and percentages based on sub-providers reported on hospitals' Medicare cost reports for 1998.

Source: Analysis of HCFA data from hospitals' Medicare cost reports for 1998 by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

(McConnel and Zetzman 1993, Edelman and Menz 1996, Coburn and Bolda 1999, Schur and Franco 1999).

To examine this issue, we compared the use of health services by urban and rural beneficiaries in Medicare's traditional program in 1999. We also compared the proportions of beneficiaries using services, services per user, and the mixes of services used among urban and rural areas and across geographic regions. These analyses showed that:

- Urban and rural beneficiaries use similar amounts of care, on average, nationally and within each region.
- Beneficiaries' per capita use of services differs among regions, with those in the South and the West having the highest and lowest average use, respectively.
- Washington, Arizona, and New Hampshire have the highest concentrations of counties with unusually low use rates.

Analytic methods

To compare urban and rural beneficiaries' per capita service use and the mix of services used, we separated providers' 1999 claims for a 5 percent sample of beneficiaries into 11 service types: short-term hospital inpatient, rehabilitation hospital, long-term hospital, psychiatric hospital, skilled nursing facility (SNF), swing bed, home health, physician, hospital outpatient, ambulatory surgical center (ASC), and rural health clinic (RHC). The physical quantities of most services, however, are not directly comparable either within or across service types. For example, outpatient hip-replacement surgery uses more resources than drawing blood for laboratory tests, and neither is equivalent to inpatient liver transplantation.

To put all services on a common scale, we measured the relative costliness of each service as consistently as possible. For most services paid under one of Medicare's prospective payment systems—physician, short-term hospital inpatient, hospital outpatient, ASC, and SNF—we measured use as the sum of the relative values for all services received multiplied by the national base payment amount. For home health care, we applied the median national payment rates in 1999 for the six home health visit types specified in the Medicare interim payment system. We calculated use of swing-bed and specialty hospital services (long-term, psychiatric, and rehabilitation care) by adjusting the payments Medicare made to providers by the hospital wage indexes that apply to the providers' locations. For RHC visits, we measured use as the number of visits multiplied by the maximum payment rate per visit in 1999 ($60.40).

These methods value all services as if they were paid using national payment rates. They provide fair relative measures of service use if two assumptions hold:

- Medicare's relative values for individual services within a service type accurately reflect services' relative costliness.
- The national base payment amounts (conversion factors) accurately measure the relative costliness of services across service types.

After applying these methods, beneficiaries' total use is the sum of measured use over all service types.

To explore differences in beneficiaries' service use among types of rural areas and across regions, we calculated separate national average use rates for counties grouped by urban influence code (UIC) and for four Census regions. To make the results easier to interpret and ensure reasonably large samples, we combined UIC groups representing large and small metropolitan statistical areas (MSAs) and those adjacent to large and small MSAs, leaving one urban and five rural categories. Except for the most rural UIC in the Northeast, all regional UIC groups had at least 3,000 sample beneficiaries.

To control for differences in beneficiaries' use of services associated with systematic differences in health status, we divided beneficiaries' use rates by their risk scores from the hierarchical condition category (HCC) risk adjustment model. These risk scores represent beneficiaries' expected service use rates given their health status, relative to that of the national average beneficiary. Expected use is based on the beneficiary's risk category, which reflects age, sex, and diagnoses from hospital inpatient, hospital outpatient, and physician visits during the previous year, and on the national average historical spending per beneficiary in each risk category.

Urban beneficiaries in our sample had higher average risk scores (worse health) than rural ones. Because the HCC model does not fully reflect differences in health status, risk-adjusted use rates probably overstate urban beneficiaries' service use.* Rural beneficiaries' risk-adjusted use rates also may be overstated somewhat if they use relatively few services given their health status. ■

* Urban beneficiaries' use rates are also somewhat overstated because the population is limited to beneficiaries enrolled in the traditional program. Those enrolled in the Medicare+Choice program are excluded because Medicare+Choice organizations generally do not submit claims. Excluding them, however, overstates urban beneficiaries' use rates because Medicare+Choice enrollees are healthier than average (PPRC 1996, MedPAC 1998, MedPAC 2000).

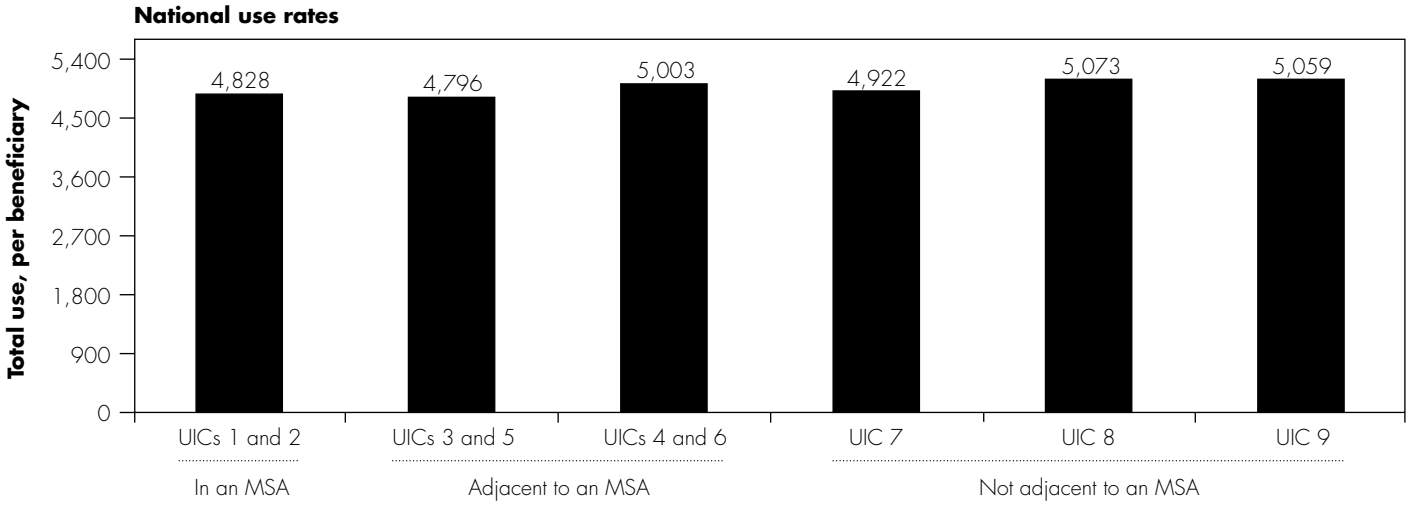
- Although overall use rates are similar, the mix of services varies; rural beneficiaries use fewer physician and post-acute care services but more hospital outpatient and inpatient services than do their urban counterparts.

Use of services in urban and rural areas

The per capita use rate in the urban UIC is similar to rates in the five rural UICs, both nationally and within regions (Figure 1-10).[8] This finding holds whether or not we adjust for beneficiaries' health status.[9] In contrast, estimated use rates differ between regions. Compared with the national average, per capita service use is 6.0 percent higher in the South and 6.7 percent lower in the West.

FIGURE 1-10

Urban and rural beneficiaries use similar amounts of services, but use rates differ among regions



Regional use rates

Location of county (UIC)	Nation	Region			
		Northeast	South	Midwest	West
Urban, in an MSA (1, 2)	4,828	4,650	5,092	4,827	4,532
Adjacent to an MSA and includes a town with at least 10,000 people (3, 5)	4,796*	4,396*	5,111	4,718	4,527
Not adjacent to an MSA but includes a town with at least 10,000 people (7)	4,922*	4,339	5,395*	4,750	4,503
Adjacent to an MSA but does not include a town with at least 10,000 people (4, 6)	5,003*	4,541	5,213*	4,867	4,480
Not adjacent to an MSA but includes a town with between 2,500 and 10,000 people (8)	5,073*	4,601	5,469*	4,787	4,688
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	5,059*	5,504	5,372*	4,815	4,586
All beneficiaries	4,864	4,627	5,156	4,813	4,537

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget). Use is the sum of services from 11 service types, evaluated at nationally standardized payment rates and adjusted for individual differences in health status. These results include beneficiaries in traditional Medicare and exclude beneficiaries in Medicare+Choice, who make up 21 percent of the Medicare population in urban counties and 4 percent of the population in the five non-urban categories. Northeast includes New England and Middle Atlantic census divisions; South includes South Atlantic, East South Central, and West South Central census divisions; Midwest includes East North Central and West North Central census divisions; West includes Mountain and Pacific census divisions.
*Indicates statistically different from urban value in same region (5 percent level).

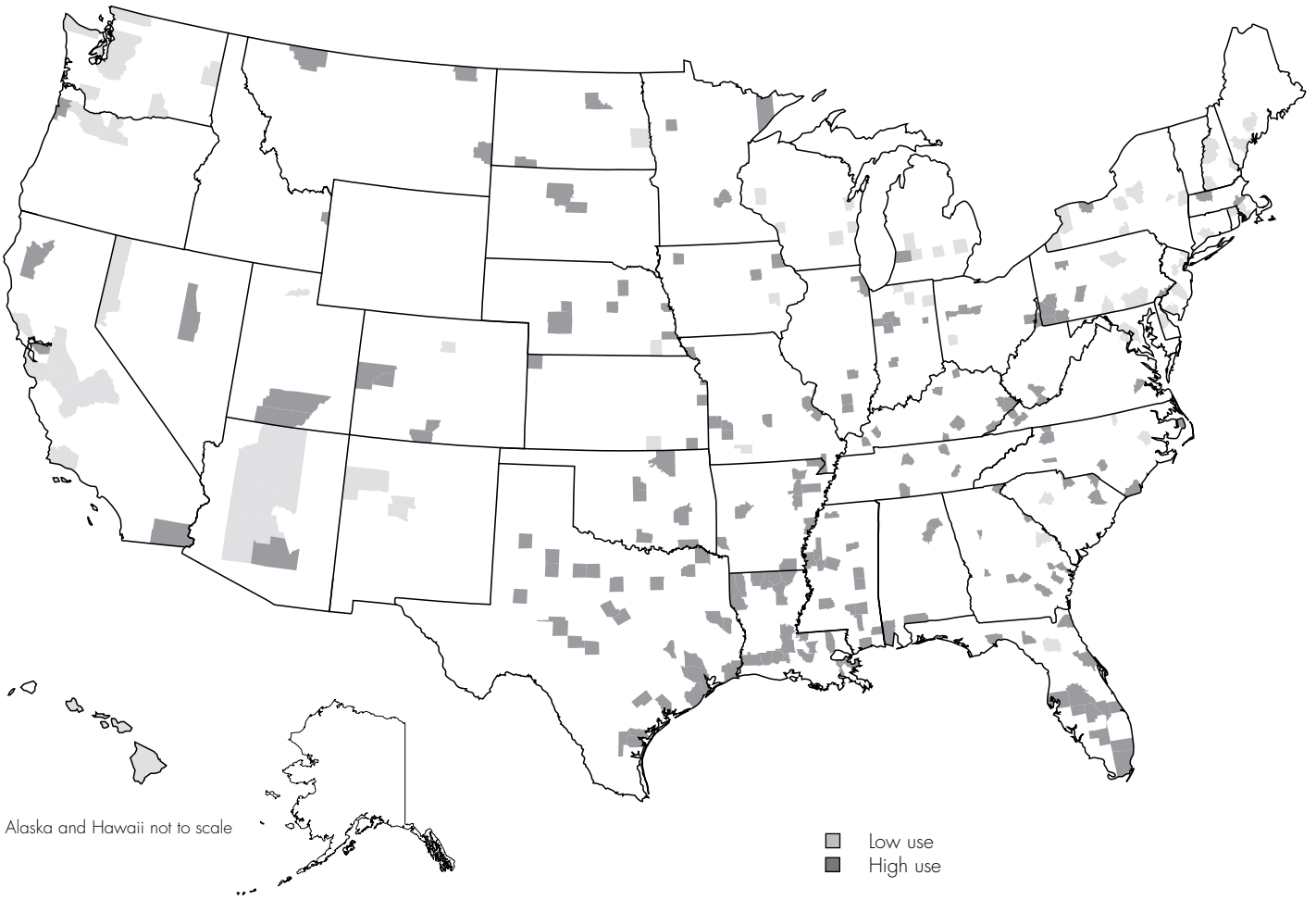
Source: MedPAC analysis of claims from 1999 for a 5 percent random sample of Medicare beneficiaries.

8 Although differences in these use rates are statistically significant because we have large samples, they are not meaningful.

9 Without adjustment for health status, urban beneficiaries' use rates range from 2.3 percent to 6.6 percent higher than the use rates in rural UICs; with adjustment, they range from 0.7 percent higher to 4.8 percent lower.

FIGURE 1-11

Counties with high and low use of services



Note: High use includes counties with rates of service use more than two standard deviations above the national average. Low use includes counties more than two standard deviations below the national average.

Source: MedPAC analysis of claims from 1999 for a 5 percent random sample of Medicare beneficiaries.

We examined geographic differences in use rates more closely by identifying counties with unusually high or low use rates.[10] Louisiana, Texas, Florida, and Mississippi have concentrations of high-use counties; Washington, Arizona, and New Hampshire have disproportionate numbers of low-use counties (Figure 1-11).

Unusually high or low rates do not necessarily mean that beneficiaries are receiving too much, too little, or an inappropriate mix of care. A clinically based analysis would be needed to determine care appropriateness (see Chapter 2). This analysis serves only to identify counties that should be examined more closely. Some of these counties, for instance, have only a few beneficiaries in our sample. Before undertaking a costly clinical evaluation of their use rates, it probably would be useful to re-estimate use rates with a larger sample of 1999 claims or with claims from several years.

Interpreting use rates

Differences in use rates should be interpreted cautiously. Beneficiaries in areas with lower rates do not necessarily have less access to care or receive less appropriate care. The relatively low use rates in the West thus might indicate that beneficiaries living there have greater access problems, but further analysis would be necessary to rule out other potential differences, such as providers' practice patterns or beneficiaries'

10 High- and low-use counties have use rates that fall outside 95 percent confidence limits around the national average use rate, taking into account the number of sample beneficiaries in the county.

preferences and propensities to seek care. Conversely, similar use rates do not imply that all groups are equally well served. Finally, use rate differences may or may not be associated with differences in the quality of health outcomes; outcomes depend on the appropriateness and technical quality—rather than the amount—of the care received.

The mix of services used

Urban and rural beneficiaries use somewhat different combinations of services, on average. Per capita use of physician services is 7 to 14 percent lower in the rural UICs, compared with the urban UIC (Table 1-4). Although rural beneficiaries are about as likely as those in urban areas to use physicians' services, rural users have fewer visits, on average, than do urban ones. This result may overstate the difference between urban and rural beneficiaries' behavior, however, because the latter often receive physician care in RHCs. After combining physician and RHC services, per capita use in the rural UICs is 3 to 6 percent lower than that in the urban UIC.[11] Conversely, per capita use of physicians' services by urban beneficiaries may be somewhat understated because residents (physicians in training) furnish a substantial volume of care in urban areas, but claims for their services often are not submitted.[12]

Beneficiaries in the rural UICs also use 5 to 15 percent less post-acute care (PAC), which includes home health, SNF, swing-bed, rehabilitation hospital, and long-term hospital services. Rural beneficiaries' lower PAC use is largely driven by lower use of non-hospital PAC services (home health and SNF), offset to some extent by greater use of swing-bed services.

In contrast to physician and PAC services, per capita use of hospital outpatient care is 14 to 28 percent higher in the rural UICs because a higher proportion of rural beneficiaries use at least one outpatient service. Compared with urban beneficiaries, those in rural areas may face more obstacles in obtaining primary care in physicians' offices and thus receive a greater proportion of primary care services in outpatient departments. Rural beneficiaries also may get some care from physician specialists who periodically visit rural outpatient departments. These differences should be interpreted with some caution, however; outpatient service use may be generally understated because of poor coding practices in 1999 before prospective payment began in 2000.

Finally, use of hospital inpatient care per beneficiary is 3 to 13 percent higher in the rural UICs; rural beneficiaries are more likely to be admitted for care at least once and rural users have more admissions per user.[13] Rural areas are much less likely than urban ones to have specialty hospitals, such as long-term and rehabilitation facilities, and they generally have fewer SNFs and home health agencies, which may increase use of short-term and critical access hospitals. Also, rural beneficiaries likely travel greater distances, especially to obtain specialized care. Consequently, physicians may sometimes admit rural beneficiaries for inpatient care in situations where they would use outpatient care if the patient lived closer to the hospital.

Validating our results

Our results suggesting that urban and rural beneficiaries use similar amounts of care might be viewed as somewhat contrary to conventional wisdom. Consequently, we attempted to validate them using two approaches:

- We examined how well the use rates track counties' adjusted average per capita cost (AAPCC) rates, which are based on per capita program spending in each county from 1990 to 1994, and
- We compared our findings with those reported in the literature on urban and rural beneficiaries' use of health services.

Use rates and per capita spending

To make fair comparisons, we removed from the AAPCC rates the effects of geographic differences in input prices, indirect graduate medical education payments, and disproportionate share payments to hospitals because these factors are external. We also compared use rates and AAPCC rates without adjustments for health status because they are adjusted with different systems.

After these changes, the national average adjusted AAPCC rate is 6.1 percent higher for urban beneficiaries than for rural beneficiaries. This is similar to the differences in use rates (without adjustment for health status), which average 4.1 percent higher for urban beneficiaries than for rural beneficiaries. County AAPCC rates, however, explain only half the cross-county variation in use rates. We believe the correlation is relatively low at the county level because:

- use rates may be somewhat unstable because they are based on a single year's data and small samples in some counties, while the AAPCC rates are derived from five years of data,[14]
- input-price adjusters for the AAPCC rates poorly reflect input-price differences between counties, and

11 Treating all RHC services as physician services may overstate the volume of physician care. RHC providers did not record service codes on more than half the claims in our database. We assumed each uncoded claim represented a single physician visit.

12 Rural beneficiaries' greater use of hospital outpatient care may exaggerate slightly measured discrepancies between urban and rural beneficiaries' use of physician services. Practice expense differentials tend to discount physician services furnished in outpatient settings compared with those furnished in physicians' offices. Our sensitivity analysis, however, suggests that this effect is probably quite small.

13 Hospital inpatient care includes inpatient services received in short-term and critical access hospitals.

14 From a regression of county use rates against AAPCC rates, unexplained errors in use rates are often very large for counties with small samples. Unexplained errors of the same magnitude did not occur for counties with large samples.

TABLE 1-4

Per capita use of services by beneficiaries in traditional Medicare, by type of service and location of county, 1999

Service type	Urban, in an MSA (1, 2)	Location of county (UIC): Adjacent to an MSA: Includes a town with at least 10,000 people (3, 5)	Adjacent to an MSA: Does not include a town with at least 10,000 people (4, 6)	Not adjacent to an MSA: Includes a town with at least 10,000 people (7)	Not adjacent to an MSA: Includes a town with between 2,500 and 10,000 people (8)	Not adjacent to an MSA: Does not include a town with at least 2,500 people (9)
Physician	1,276	1,188*	1,186*	1,195*	1,139*	1,117*
Physician+RHC	1,280	1,214*	1,246*	1,231*	1,212*	1,230*
Hospital outpatient	541	616*	625*	642*	664*	690*
Hospital inpatient	2,185	2,250*	2,363*	2,319*	2,473*	2,452*
Post acute**	684	602*	653*	628*	623*	593*
SNF+home health	502	461*	467*	478*	453*	426*
Swing beds	1	8*	24*	13*	30*	49*
Other	138	114	116	103	101	94
Total	4,828	4,796	5,003*	4,922*	5,073*	5,059*

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget), RHC (rural health clinic), SNF (skilled nursing facility). Hospital inpatient combines short-term and critical access hospitals. "Other" combines ambulatory surgical center and psychiatric hospital services. Use is services evaluated at nationally standardized payment rates and adjusted for individual differences in health status. These results include beneficiaries in traditional Medicare and exclude beneficiaries in Medicare+Choice, who make up 21 percent of the Medicare population in urban counties and 4 percent of the population in the five non-urban categories.
*Indicates statistically different from urban value (5 percent level).
**Post acute also includes two categories (not shown) for rehabilitation and long-term hospital services.

Source: MedPAC analysis of claims from 1999 for a 5 percent random sample of Medicare beneficiaries.

- the AAPCC spending data are much older (1990-1994) than are the use rate data.

The discrepancies between county use rates and AAPCCs caused by these limitations are largely random at the county level, so they likely cancel out when rates are aggregated at the national level.

Use rates in the literature

It is difficult to compare our total use rate estimates to the literature because we combined 11 service types and most other studies examined no more than 3. In the only comparable study, the Prospective Payment Assessment Commission (ProPAC 1996) had consistent results—rural beneficiaries' use of services was approximately 2 percent higher than that of their urban counterparts.

Moreover, our results for specific services generally are consistent with those of other published studies. The most frequently analyzed service is physician care. Miller, Holahan, and Welch (1995) measured use of physician care with relative value units (RVUs) from the physician fee schedule. They compared the average RVUs of services used by rural and urban beneficiaries. This is similar to our method of comparing the average of the RVUs multiplied by the national conversion factor in the physician fee schedule. They found, as we have, that rural beneficiaries use less physician care than those living in urban areas.

Examining only annual physician visits per person, Himes and Rutrough (1994) found elderly rural residents had fewer visits. If we count visits per beneficiary, ignoring differences in service complexity (RVUs), we find a similar result. In contrast, McConnel and Zetzman (1993) found urban and rural elderly do not differ either in the percentage with at least one physician visit or the annual number of visits per person. Their results, however, are based on a relatively small national survey of 3,500 people age 70 and older, including 1,102 rural residents.

Himes and Rutrough also found that non-farm rural elderly have more hospital inpatient stays per beneficiary, which is consistent with our results. Conversely, McConnel and Zetzman found that rural elderly are not statistically more likely to have at least one hospital stay. Although the differences between urban and rural beneficiaries' admission rates are smaller in our data, we have a much larger sample (2 million beneficiaries) and thus greater power to detect significant differences.

Our analysis of home health use is consistent with Kenney (1993a, 1993b), who found that urban beneficiaries were

more likely to use home health care. In contrast, Rabiner (1995) found little difference between urban and rural elderly residents' probabilities of using home health services. However, she used data from 1982-1984, and the home health market has grown considerably since then.

Finally, our analysis of the use of SNF services is not consistent with Dubay (1993), who found rural beneficiaries are more likely to use SNF services. However, the SNF market has grown substantially since the year of her data (1987), so comparisons with our results may not be meaningful.

Potential implications for Medicare and other public policies

Our findings support two conclusions. First, although we cannot infer that Medicare beneficiaries living in rural areas always receive all of the care they need, the available evidence does not suggest that they have serious, widespread or unique problems. On average, they receive about the same amount of services (but a somewhat different mix) as their urban counterparts. Second, some rural communities may have difficulty sustaining the health care infrastructure needed to meet their residents' needs because they are facing a combination of one or more conditions, such as small and declining populations, low household incomes, high unemployment, or disproportionate numbers of minority residents. These conditions often make it harder to attract and retain providers because they limit the demand for services, raise providers' unit costs, or reduce providers' revenues by increasing uncompensated care burdens.

Attempting to provide the full range of modern medical services in all rural areas with today's costly technologies would not be desirable, even if it were possible. Given low levels of demand, providers would operate at inefficient volumes, raising costs and compromising service quality.

Nevertheless, Medicare's policies still must adapt to accommodate differences in market conditions that would affect efficient providers' costs but are beyond their control (MedPAC 2001). This is necessary to achieve Medicare's objectives of ensuring beneficiaries' access to medically necessary acute care of high quality and promoting efficient production and distribution of acute care products and services. Because Medicare buys products and services from providers who compete for resources in private markets, it must establish payment rates that approximate the prices that would prevail in the long run given the conditions in local health care markets.

The remaining chapters of this report suggest a number of actions that we believe policymakers in the Congress and HCFA should take to better adapt Medicare's policies to conditions in rural markets. In general, these policy changes involve adjusting providers' payment rates to reflect how market conditions affect their costs and revenues.

Even if Medicare's payment rates reasonably accommodate the diversity of conditions in rural markets, however, providers may not be able to cover their fixed costs and may stop furnishing certain kinds of care or exit the market. Although Medicare often accounts for half or more of rural providers' revenues in many markets, other payers still play important roles. Thus, where market conditions are weak, Medicare's policies can provide only part of the solution. ■

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CHAPTER 2

Rural beneficiaries' access to care

RECOMMENDATION

The Secretary should identify strategies to increase rural beneficiaries' participation in government programs that cover Medicare premiums and/or deductibles and coinsurance.

***YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3**

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 2

Rural beneficiaries' access to care

In this chapter

- Assessing rural beneficiaries' access to care
- Programs to address rural access problems

Promoting beneficiaries' access to health care is one of the primary objectives of the Medicare program. Rural areas of the country often have fewer providers and longer distances between beneficiaries and providers than do urban areas, potentially hindering access to care. Research by the Medicare Payment Advisory Commission (MedPAC) is largely reassuring. On numerous measures, including satisfaction with availability of providers, ability to get care, and frequency of receiving needed care, rural and urban beneficiaries appear strikingly similar, although beneficiaries in the most remote areas report somewhat greater barriers to accessing care. Overall, rural beneficiaries' greatest potential barrier to care appears to be the high cost of care. The Commission is concerned about this problem and recommends that the Secretary identify strategies to increase eligible rural beneficiaries' participation in government cost-sharing assistance programs. Interpreting the larger policy implications of the Commission's findings is complex. It is unclear whether programs designed to address perceived problems with the availability of rural providers have been successful or not: The programs could be imperfectly targeted or the magnitude of the barriers overestimated. At the same time, MedPAC's findings suggest that policymakers should be vigilant in monitoring access issues in remote rural areas.

For many years, policymakers have been concerned that rural beneficiaries may have difficulty accessing care. Perceived barriers include long travel time between beneficiaries and providers, fewer available providers, the inability of some rural beneficiaries to afford care, and the inadequacy of supplemental insurance coverage. In addition, many believe that rural beneficiaries tend to have a greater need for health services. Accordingly, the purpose of this chapter is to uncover the degree to which rural beneficiaries have problems accessing care, discuss the implications for Medicare policy, and examine the Medicare programs intended, in part, to increase rural beneficiaries' access to care.

The Commission found that, on the whole, rural beneficiaries are satisfied with their access to care and the availability of providers. In addition, they are as likely as their urban counterparts to avail themselves of needed services. Two important exceptions emerged, however, from an analysis of the Medicare Current Beneficiary Survey (MCBS) (see text box) and Medicare claims data. First, beneficiaries living in the most remote areas reported a greater degree of difficulty accessing care than did other rural and urban beneficiaries. Second, rural beneficiaries expressed greater concern about the cost of their care than did their urban counterparts.

In considering the implications of these findings, it is unclear whether limited problems with access to care suggest that programs to increase access have been largely successful, not adequately targeted to the most remote areas, or whether there is a lack of underlying need for them. However, given rural beneficiaries' concern about the cost of their care, the Commission recommends that the Secretary identify strategies to improve participation in government cost-sharing assistance programs.

This chapter first explores the evidence on rural beneficiaries' experience in accessing care. It notes that assessing access to care is not straightforward and presents survey and claims data to describe the latest findings on availability of providers and access to providers. Access measures include beneficiaries' own assessments, travel time, use of services, out-of-pocket spending, and availability of supplemental insurance. The chapter then reviews the array of Medicare programs created to improve access to care for rural beneficiaries, and explores some of the policy issues concerning the Medicare incentive payment (MIP) program for health professionals in rural areas and coverage of telemedicine services.

Using the Medicare Current Beneficiary Survey to evaluate access

To evaluate access and satisfaction from the perspective of beneficiaries, the Commission analyzed data from the 1999 Access to Care files of the Medicare Current Beneficiary Survey (MCBS). Initially fielded in 1991, the MCBS is a longitudinal survey of a nationally representative sample of Medicare beneficiaries.[1]

Each autumn, the Health Care Financing Administration administers the MCBS access to care questionnaire to noninstitutionalized beneficiaries. Questions address beneficiaries' ability to obtain care, satisfaction with care, and usual source of care. Beneficiaries ages 85 and older, those who are disabled and under age 65, and those enrolled in Medicare managed care are oversampled to permit comparison of these groups with their counterparts. However, the sample underrepresents populations in rural areas of Southern states and frontier counties (areas with fewer than six people per square mile). The 1999 Access to Care file includes data from 16,670 noninstitutionalized Medicare beneficiaries.

Because the number of MCBS respondents in two categories of counties (those that were not adjacent to a metropolitan area and contained a population of less than 2,500 (urban influence code 9) and those that were adjacent to a large metropolitan area and contained a city with a population of greater than 10,000 (urban influence code 3)) was insufficient to permit reasonably precise statistical testing, MedPAC combined these county categories with others. This grouping increases the proportion of the population represented, allowing sound statistical analysis. ■

1 For additional information on the Medicare Current Beneficiary Survey and its history, see Adler 1994.

Assessing rural beneficiaries' access to care

Analyzing whether rural beneficiaries have adequate access to needed health care is complicated by difficulties in measuring access and evaluating its adequacy. Because access is a multidimensional concept, the Commission relied on both subjective and objective measures to evaluate it. The available subjective measures reflect beneficiaries' satisfaction with availability of and access to care, while the objective measures capture information such as travel time to providers, number of providers in rural areas, and use of needed care.

While the Commission concludes that policymakers should be reassured about the adequacy of rural beneficiaries' access to care, we recognize that our analysis is constrained by survey data that were not designed to reflect every problem in each part of the country as well as a lack of data on outcome measures for patients with serious medical emergencies, such as heart attacks. In addition, this analysis is constrained by the lack of a definition—or benchmark—of acceptable access to care.

Without such a benchmark, how do we know what degree of access to care is adequate?

- Should adequacy of access for rural beneficiaries be measured in comparison with urban beneficiaries? We compare rural beneficiaries' responses to access questions to those of urban beneficiaries, but different responses with respect to travel times, for example, may not necessarily indicate a problem if rural beneficiaries sought out urban providers who demonstrated better patient outcomes. Conversely, similar responses do not rule out problems. For example, although both rural and urban beneficiaries express satisfaction with their access to care, many in each group do not receive clinically appropriate care, such as mammograms.

- Should adequacy be judged based upon beneficiaries' own assessments? Survey results are by nature subjective and influenced by individuals' frame of reference. Beneficiaries' opinions may or may not be a valuable tool in assessing adequacy of access.

- Should adequacy be defined by a ratio of providers to beneficiaries or by the existence of certain core services within a certain radius? If so, what is the appropriate radius? This approach would address the complicated and value-laden question of what array of services should be readily available to all beneficiaries. Perhaps a rural environment dictates a different standard of access. Just as urban beneficiaries must cope with more air pollution, perhaps rural beneficiaries must cope with greater travel time to health care services.

The Commission does not attempt to answer these questions at this juncture, but recognizes that they are inherent to assessing the available data and research.

Findings on access to care

Overall, rural and urban beneficiaries both report high satisfaction with the availability of providers and access to care, although there is some variation. By measures relating to satisfaction with the availability of medical care and the ability to get care, rural and urban beneficiaries appear to have comparable access. By a few measures, including reported difficulty receiving care, rural beneficiaries appear to have better access, but by other measures—insurance coverage, ability to pay, and travel time to usual source of care—they appear to have somewhat lower access.

MedPAC's work also reveals that rural areas differ from one another with respect to a variety of access measures, depending on proximity to a metropolitan area. Beneficiaries who live in the most remote areas appear to be more vulnerable to access problems than other rural and urban beneficiaries.[2] These same beneficiaries also report significantly lower health status, income, and education levels, which suggests a relatively higher level of need among this population as well.

We also found a relatively small difference between rural and urban beneficiaries in their use of needed health care services, although remote rural beneficiaries used needed services somewhat less. According to an index that equally weighted various clinical indicators, beneficiaries in the most rural areas received needed care about 71 percent of the time, compared with about 73 percent of the time for all other beneficiaries. The alarming aspect of this finding is that both urban and rural beneficiaries fail to get needed care about 30 percent of the time.

The following section evaluates several interrelated indicators of access to care:

- rural beneficiaries' health care needs,
- the availability of providers and services, and
- the accessibility of existing services, which involves assessing barriers such as travel time, use of needed care, the affordability of care, and supplemental insurance coverage.

Rural beneficiaries' health care needs

Rural beneficiaries appear to have somewhat greater health care needs than urban beneficiaries (Table 2-1).

- *Self-reported health status*. Overall, rural beneficiaries report lower health status than urban beneficiaries. Thirty-three percent of beneficiaries living in the most remote areas reported fair or poor health status.

- *Socioeconomic status*. Rural beneficiaries tend to have lower socioeconomic status than do urban beneficiaries, with the most rural beneficiaries reporting the lowest. With respect to income, 55 percent of unmarried beneficiaries in remote areas—but only 39 percent of unmarried urban dwellers—reported an annual income of less than $10,000 per year. In addition, rural beneficiaries, particularly those in remote areas, are less likely to have graduated from high school.

- *Other health and mobility status indicators*. Rural beneficiaries are no more likely than urban beneficiaries to have at least one chronic condition or need help with a functional impairment.

Availability of services

Rural beneficiaries—including those living in remote rural areas—are generally satisfied with the availability of care, including specialty care. Ninety-four percent of both rural and urban beneficiaries described themselves as satisfied or very satisfied with the availability of medical care in general and 96 percent described themselves as satisfied with the availability of specialist care (Table 2-2).

2 This analysis examined the data using the urban influence code (UIC) classification scheme developed by the Department of Agriculture, which segments the population into nine categories based upon their proximity to urban areas. The most remote rural areas are not adjacent to a metropolitan area and do not include a town of at least 10,000 people. See Chapter 1 for more detail.

TABLE 2-1

Selected beneficiary characteristics, by location of county, 1999

Characteristics	Urban, in an MSA (UIC 1, 2)	Rural	Rural			
			Adjacent to an MSA		Not adjacent to an MSA	
		Rural total	Includes a town with at least 10,000 people (UIC 3, 5)	Does not include a town with at least 10,000 people (UIC 4, 6)	Includes a town with at least 10,000 people (UIC 7)	Does not include a town with at least 10,000 people (UIC 8, 9)
Age						
<65	12.1%	14.3%*	14.9%	12.9%	14.0%	16.1%
65-84	78.7	76.6*	75.7	78.3	75.5	75.4
85+	9.2	9.1*	9.3	8.8	10.4	8.5
Female	56.2	55.3	57.5	53.9	55.3	54.4
Self-reported health status						
Excellent or very good	42.6	37.9**	38.7	39.1	36.5	35.3**
Good	31.5	31.5**	31.6	30.3	34.5	31.3**
Fair or poor	25.9	30.6**	29.7	30.6	29.0	33.3**
Needs help with functional impairment	13.4	15.8	15.0	16.0	15.1	17.3
Presence of chronic conditions						
None	22.2	20.7	22.0	20.1	17.5	21.7
One or two	50.7	50.6	51.5	49.6	50.8	50.7
Three or more	27.1	28.8	26.5	30.2	31.6	27.6
Income (not married)						
Up to $10,000	38.7	49.1**	45.7**	49.3**	47.7	55.0*
$10,000 to $25,000	42.3	39.3**	43.6**	36.6**	43.5	34.3*
Greater than $25,000	18.9	11.7**	10.6**	14.1**	8.9	10.7*
Income (married)						
Up to $10,000	8.0	11.4**	9.4*	10.5**	13.7	14.9*
$10,000 to $25,000	34.1	43.8**	46.0*	40.1**	43.9	47.2*
Greater than $25,000	57.9	44.8**	44.6*	49.4**	42.3	37.8*
Highest level of education						
Less than high school	30.4	42.2**	41.0	38.8**	44.0*	49.3*
Completed high school	29.6	29.3**	29.5	30.4**	31.2*	25.8*
Beyond high school	40.0	28.5**	29.5	30.9**	24.9*	24.9*
Living arrangement						
Lives alone	31.6	31.2**	31.2	29.4	31.7	34.0
Lives with spouse	51.0	55.2**	55.0	56.6	53.5	54.3
Lives with others, not spouse	17.4	13.6**	13.8	14.0	14.8	11.7

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).
* Difference between urban and rural subgroups in their distribution is statistically significant at the 0.05 level. For characteristics with multiple dimensions, their difference is in the distribution across dimensions.
** Difference between urban and rural subgroups in their distribution is statistically significant at the 0.01 level. For characteristics with multiple dimensions, their difference is in the distribution across dimensions.

Source: MedPAC analysis of 1999 Medicare Current Beneficiary Survey Access to Care file.

The rural medical workforce differs from the urban one. Rural areas have a higher proportion of nonphysician providers and a lower proportion of physician specialists than urban areas. Rural hospitals tend to be smaller, but there does not appear to be a shortage of beds overall. With respect to post-acute care, information on the number of rural providers is unreliable but data on use of services suggest that rural beneficiaries use swing beds more often and rehabilitation hospitals less often than urban beneficiaries. Overall, however, they use as many post-acute services as urban beneficiaries.

TABLE 2-2

Beneficiary satisfaction with care, by location of county, 1999

Characteristics	Urban, in an MSA (UIC 1, 2)	Rural	Rural: Adjacent to an MSA		Rural: Not adjacent to an MSA	
		Rural total	Includes a town with at least 10,000 people (UIC 3, 5)	Does not include a town with at least 10,000 people (UIC 4, 6)	Includes a town with at least 10,000 people (UIC 7)	Does not include a town with at least 10,000 people (UIC 8, 9)
Strongly agree/agree						
Physician checks everything	93.9%	92.6%	92.4%	92.9%	95.7%*	90.3%
Great confidence in physician	94.7	94.8	94.5	94.6	95.7	95.1
Very satisfied/satisfied						
Availability of medical care	93.6	93.6	94.3	93.0	94.9	92.9
Overall quality of care	96.0	96.0	95.4	96.3	96.4	96.2
Ease of getting to doctor	94.9	92.4	95.0	90.7**	94.6	90.3*
Costs of medical care	87.6	82.4*	83.3*	82.8**	82.7	79.6**
Specialist care	96.4	95.6	97.4	95.6	93.9	94.0

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).
* Difference between urban and rural subgroups is statistically significant at the 0.05 level.
** Difference between urban and rural subgroups is statistically significant at the 0.01 level.

Source: MedPAC analysis of 1999 Medicare Current Beneficiary Survey Access to Care file.

A low density of providers in rural areas does not necessarily mean that beneficiaries are not receiving needed care. As discussed in Chapter 1, beneficiaries often travel to more urban areas to receive certain types of care, particularly specialized care. Travel is not always a burdensome undertaking, as some rural beneficiaries may be close to urban counties that have a full complement of services. For those who lack transportation and are in more remote areas, the sparseness of providers is a far more significant barrier to care.

- *Physicians.* About 20 percent of the U.S. population lives in rural areas, but only 11 percent of physicians practice in rural communities (AMA 1999). Primary care physicians are more likely to practice in rural areas than specialists: In 1999, 15 percent of primary care physicians were in rural areas (HRSA 2001), but only 10-12 percent of specialists were in rural areas (AMA 1999). Data on the ratio of generalists to residents also reflect the disparity between rural and urban areas, although the value of this comparison is questionable given concerns about physician oversupply in urban areas.[3]
- *Nurse practitioners and physician assistants*. 20 percent of nurse practitioners and 23 percent of physician assistants practice in rural areas. Together they account for 23 percent of non-metropolitan primary care practitioners, compared with 16 percent in metropolitan areas (HRSA 2001).
- *Hospitals.* In 1998, 20 percent of all hospital beds were in rural hospitals (Ricketts and Heaphy 1999), which is consistent with the percent of the population living in rural areas. While there are fewer rural hospitals today than 10 years ago, the impact of hospital closures varied by community. In addition, more than 350 critical access hospitals have opened, either as new entities or converted former full-service hospitals, to meet the urgent health care needs of rural beneficiaries.
- *Rural health clinics*. The number of rural health clinics has grown from 483 in 1989 to 3,749 in 1998 (Farley et al. 2001).[4] Some policy analysts have found that some of this growth is the result of physician practices

3 In 1998, urban counties with populations of more than 1,000,000 had an average of 91 generalist physicians per 100,000 residents and urban counties with populations under 1,000,000 had an average of 75. In contrast, the average generalist-physician-to-population ratio in rural counties ranged from a low of 39:100,000 in those categorized by UICs 4 and 9 to a high of 64:100,000 ratio in UIC 7 (Hart 2000).

4 This study counted the number of clinics operating at any time during 1998. This results in a larger estimate than counting the number of clinics operating at a single point in time.

redefining themselves as rural health clinics (GAO 1996). The growth of new clinics has slowed more recently with payment changes enacted in the Balanced Budget Act of 1997 (BBA).

- *Home health.* Counting the number of home health agencies in rural areas is not particularly meaningful, given that the data reflect neither the service areas of agencies (some are statewide) nor branches of parent agencies that may be located in rural agencies. Data on the use of services suggest that rural beneficiaries use home health care less than urban beneficiaries do, but rural beneficiaries that do use home health receive more visits than their urban counterparts. However, rural beneficiaries receive more home health aide visits, while urban beneficiaries receive more skilled nursing and therapy visits (Sutton 1999).

- *Skilled nursing facility and other post-acute care.* Because of fluctuation in the number of swing beds used for skilled nursing care and the number of Medicare-certified skilled nursing facility (SNF) beds, an accurate count of SNF beds is not possible. Use rate data are more helpful in assessing availability of post-acute care. Overall, rural beneficiaries use the same amount of SNF care (counting swing beds) but less specialty care from long-term care and rehabilitation hospitals, which tend to be located in more urban areas. Many rural beneficiaries travel to other rural areas or metropolitan areas for their SNF care, but a greater percentage stay in their own rural area for their SNF care.

Accessibility of care

In general, rural and urban beneficiaries are satisfied with their access to care, although beneficiaries in remote rural areas report somewhat greater difficulty. Data on other more objective measures—such as travel time to providers, use of necessary care, out-of-pocket costs, and supplemental insurance—round out this picture of access and raise some concerns.

With respect to beneficiaries' assessment of their access to care (Tables 2-2 and 2-3):

- Rural beneficiaries were somewhat less likely than urban beneficiaries to report trouble getting care in the past year. Those who live in rural areas containing towns of at least 10,000 people were half as likely as their urban counterparts to report having had such trouble.

- Rural beneficiaries are as likely as urban beneficiaries to be satisfied or very satisfied with the ease of getting to the doctor. Although 90 percent of rural beneficiaries in remote areas are satisfied with their ease of getting to a doctor, they are less satisfied than their other rural and urban counterparts.

- Rural and urban beneficiaries appear similar in the percentage who lacked a physician office visit during the course of the year. More beneficiaries in the most rural areas reported no physician visit (31 percent compared with 18 percent of urban beneficiaries), but part of this difference may reflect greater use of rural health clinics, which may serve as a substitute for physician office visits.

Travel time to providers The difference in travel times to providers between rural and urban beneficiaries is not as great as might be expected. About 8 percent of rural beneficiaries and less than 4 percent of urban ones report that they travel an hour or more to get to their doctors. Seventy-two percent of rural beneficiaries and 81 percent of urban ones have a travel time of under 30 minutes (Table 2-3).

The longer travel times for rural beneficiaries are most troubling when considering their ability to receive timely emergency care. The quality of emergency care is directly related to speed of delivery. Research has shown that pre-hospital times averaged two times longer in rural than urban areas (Esposito et al. 1995) and that rural patients with severe injuries were seven times more likely to die before arrival if the emergency response time was greater than 30 minutes (Grossman et al. 1997). Patients who die at the scene or within 30 days are more likely to have had slower emergency response times and pre-hospital times than those that survive (Morrisey et al. 1995).[5]

Use of necessary care MedPAC found that rural beneficiaries were nearly as likely as their urban counterparts to receive necessary care. Direct Research LLC analyzed claims data to determine whether beneficiaries were receiving the care they need, such as a physician visit within four weeks of a heart attack (see text box, p. 33). Findings indicate that only those beneficiaries living in the most rural areas were somewhat less likely to get needed care. When comparing rural and urban beneficiaries' care for 46 clinical indicators, researchers found that beneficiaries in the most rural areas received needed care about 71 percent of the time, on average, compared with 73 percent of the time for the average beneficiary (see appendix A for a list of clinical indicators). These findings are reassuring in that potential obstacles to seeking care, such as a greater sense of self-sufficiency and less aggressive referral patterns in rural areas, do not result in lower use of services among rural beneficiaries compared to urban beneficiaries.[6] These findings also suggest that rural beneficiaries' lower self-reported health status, in relation to urban beneficiaries, may also reflect environmental and lifestyle factors. However, these findings do raise the

5 In this study, the mean response and pre-hospital times of patients who died were 12 and 63 minutes, respectively, compared with 8 and 39 minutes for patients who survived.

6 Previous research has suggested less aggressive referral patterns in rural areas. One study of care for elderly patients with acute myocardial infarction showed that patients who lived relatively near to a catheterization hospital were much more likely to be initially admitted to such a hospital and much more likely to undergo a catheterization within seven days (McClellan et al. 1994).

TABLE 2-3

Beneficiary access to care, by location of county, 1999

Characteristics	Urban, in an MSA (UIC 1, 2)	Rural	Rural			
			Adjacent to an MSA		Not adjacent to an MSA	
		Rural total	Includes a town with at least 10,000 people (UIC 3, 5)	Does not include a town with at least 10,000 people (UIC 4, 6)	Includes a town with at least 10,000 people (UIC 7)	Does not include a town with at least 10,000 people (UIC 8, 9)
Had trouble getting care	4.0%	3.3%**	2.2%**	4.1%	2.0%**	4.1%
Delayed care due to cost	6.6	9.9	8.7	10.5**	11.3**	9.8**
No office visit this year[1]	18.3	20.2	16.1	20.5	12.4**	31.0**
Usual source of care						
None	8.5	9.3**	7.2*	8.6**	11.7	12.4*
Doctor's office or home	70.0	72.8**	69.5*	73.5**	80.7	71.2*
HMO	8.7	1.7**	0.3*	4.2**	0.0	0.4*
Other sites	12.9	16.2**	23.0*	13.7**	7.5	15.9*
Travel time						
0-<15 minutes	38.3	36.8**	36.5	31.8**	40.8	44.2*
15-<30 minutes	42.4	35.0**	39.7	33.4**	35.5	30.0*
30-<45 minutes	12.8	14.9**	14.7	18.5**	10.8	10.8*
45-<60 minutes	3.0	5.3**	4.4	7.2**	3.6	4.0*
>=60 minutes	3.6	8.1**	4.6	9.1**	9.3	10.9*
Mode of transportation to doctor						
Walking	3.1	2.1**	1.1*	3.1**	0.8	2.3
Driving	64.4	67.0**	69.0*	67.7**	67.1	61.9
Being driven	25.9	29.6**	28.3*	28.2**	30.1	33.7
Doctor comes to home	0.2	0.1**	0.1*	0.1**	0.0	0.0
Public transit	4.2	0.7**	0.5*	0.4**	1.2	1.1
Other	2.2	0.7**	0.9*	0.4**	0.7	1.0

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget), HMO (health maintenance organization).
[1]Office visits only pertain to beneficiaries enrolled in traditional Medicare, and not Medicare+Choice. The Medicare Current Beneficiary Survey bases office visits on claims data, and providers do not submit claims for Medicare+Choice enrollees.
* Difference between urban and rural subgroups in their distribution is statistically significant at the 0.05 level. For characteristics with multiple dimensions, their difference is in the distribution across dimensions.
** Difference between urban and rural subgroups in their distribution is statistically significant at the 0.01 level. For characteristics with multiple dimensions, their difference is in the distribution across dimensions.

Source: MedPAC analysis of 1999 Medicare Current Beneficiary Survey Access to Care file.

concern that many rural and urban beneficiaries are not receiving the care they need.

Remote rural beneficiaries were somewhat less likely to receive three types of care: electrocardiograms (except during an emergency room visit), timely follow-up after hospital discharge, and mammograms. In addition, rates of some types of potentially avoidable care (multiple emergency room visits for angina, admissions for individuals with known pulmonary disease) were higher in remote areas. Rural beneficiaries did better than their urban counterparts by some measures, such as in the percentage who obtained recommended services following initial diagnosis of anemia (Hogan 2001).

Beneficiaries living in the most remote rural areas that are also federally designated Health Professional Shortage Areas (HPSAs) appear to be particularly vulnerable. For example, beneficiaries in urban influence codes (UICs) 8 and 9, which were also HPSAs, received needed care about 67 percent and 68 percent of the time, respectively, as calculated using the index measure. However, one important limitation of this analysis is the potential for beneficiaries residing in rural HPSAs to have obtained some of their outpatient care in a rural health clinic. Such care would not be fully captured in these measures because approximately half of rural health clinic claims lack procedure codes.[7]

7 Visits to rural health clinics were captured for purposes of measuring the extent to which beneficiaries had at least one annual contact with the health system. However, specific services furnished (such as retinal eye exams for diabetics) were not fully captured on claims.

TABLE 2-4

Beneficiary insurance status, by location of county, 1999

Characteristics	Urban, in an MSA (UIC 1, 2)	Rural	Rural		Rural	
			Adjacent to an MSA		Not adjacent to an MSA	
		Rural total	Includes a town with at least 10,000 people (UIC 3, 5)	Does not include a town with at least 10,000 people (UIC 4, 6)	Includes a town with at least 10,000 people (UIC 7)	Does not include a town with at least 10,000 people (UIC 8, 9)
Insurance (traditional Medicare only)						
Private	74.1%	71.2%	73.0%	73.3%	67.0%	67.5%
Public	12.1	12.2	10.7	11.3	13.4	15.2
Medicare only	13.8	16.6	16.4	15.4	19.6	17.3
Medicare+Choice enrollment	24.8	4.7*	3.3**	8.5**	1.7**	1.7**
Medicare buy-in assistance						
QMB	5.6	6.3	5.9	5.5	7.0	8.1
SLMB	1.0	1.6	1.6	1.4	1.8	1.9
Medicaid	4.7	6.1	5.1	5.9	7.2	7.1
No assistance	88.7	86.0	87.4	87.3	84.0	82.9
Medicare enrollment						
Parts A and B	94.9	96.8**	97.2**	96.3	98.4*	96.4**
Part A only	3.9	2.8**	2.6**	3.1	1.5*	3.5**
Part B only	1.2	0.3**	0.3**	0.6	0.1*	0.1**

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget), QMB (qualified Medicare beneficiary), SLMB (specified low-income Medicare beneficiary).
* Difference between urban and rural subgroups is statistically significant at the 0.05 level. For characteristics with multiple dimensions, their difference is in the distribution across dimensions.
** Difference between urban and rural subgroups is statistically significant at the 0.01 level. For characteristics with multiple dimensions, their difference is in the distribution across dimensions.

Source: MedPAC analysis of 1999 Medicare Current Beneficiary Survey Access to Care file.

Out-of-pocket costs The greatest barrier to care for rural beneficiaries appears to be the cost of care. Beneficiaries in most types of rural areas were found to be significantly more likely (10-11 percent) than their urban counterparts (7 percent) to say that they delayed getting care in the past year because of costs (Table 2-3). In addition, rural beneficiaries (82 percent) were less likely than urban ones (88 percent) to say that they were satisfied or very satisfied with the cost of medical care. According to a forthcoming AARP Public Policy Institute analysis of 1995 MCBS cost and use data projected to 2000, rural beneficiaries spent an annual average of $2,700 (23 percent of their income) on health care services. In contrast, urban beneficiaries spent $2,540 (18 percent of their income) (Caplan and Gross, in prep.).

Rural and urban beneficiaries may differ in their abilities to pay health care expenses out of pocket, but the difference is difficult to determine, as is the impact any such difference may have on access. Although rural beneficiaries have lower incomes, the average cost of living is often lower in rural areas. No good adjusters have been identified for evaluating the extent of real differences in buying power. Some costs associated with health care delivery, such as the Part A and Part B deductible amounts, are fixed nationally for all beneficiaries; other costs, such as Medigap premiums, vary locally.

Fixed deductibles and premiums are likely to affect rural beneficiaries more than urban ones. Furthermore, if rural beneficiaries have less comprehensive supplemental insurance coverage than their urban counterparts do, out-of-pocket costs may present greater barriers to obtaining services. Possible policies to address this problem include a flat reduction in premiums or deductibles for rural beneficiaries or linking cost-sharing to measures of local Medicare spending or beneficiary income. MedPAC will continue to study out-of-pocket spending differences between urban and rural beneficiaries and model effects of introducing variable cost-sharing.

Supplemental insurance Directly related to rural beneficiaries' concerns about the cost of care is the lower likelihood that they have supplemental insurance coverage for Medicare's cost-sharing requirements and services such as prescription drugs not covered by Medicare. The absence of supplemental

coverage is correlated with an increased likelihood in delaying care and trouble getting care (Table 2-4).[8]

Seventeen percent of fee-for-service rural beneficiaries have no supplemental coverage, compared with 14 percent of urban beneficiaries.[9] Although this discrepancy may be in part related to income, it is also directly related to fewer Medicare+Choice plans being available to rural beneficiaries. These plans often offer supplemental coverage. Only 5 percent of rural beneficiaries are enrolled in Medicare+Choice plans, compared with 25 percent of urban beneficiaries (see Chapter 7 for further discussion). Beneficiaries may also have private supplemental insurance, either through a Medigap plan or an employer-sponsored plan.

RECOMMENDATION

The Secretary should identify strategies to increase rural beneficiaries' participation in government programs that cover Medicare premiums and/or deductibles and coinsurance.

Because rural beneficiaries have lower incomes and are less likely to have Medigap or employer-sponsored coverage, they have greater need for assistance to defray Medicare's cost-sharing requirements. These requirements have risen as a result of the design of the newly implemented outpatient prospective payment system. Accordingly, the Commission recommends that the Secretary identify strategies to increase rural beneficiaries' participation in the government cost-sharing assistance programs. The government programs that cover Medicare premiums and/or cost-sharing include Medicaid, the qualified Medicare beneficiary program and the specified low-income beneficiary program.

Using inpatient and outpatient claims to measure use of necessary care

Medicare claims data for 1998 and 1999 were used to measure whether beneficiaries received 40 types of necessary care as well as 6 indicators of potentially avoidable emergency or urgent care. "Necessary care" is defined as a service, such as an annual eye exam for diabetics, for which expert clinicians judge that benefits substantially outweigh risks and for which failure to provide it would be improper care. Indicators were calculated for a sample of 240,000 elderly Medicare fee-for-service beneficiaries, grouped by urban influence code of their county of residence.

The indicators were selected by a multispecialty physician panel, but should be interpreted with caution. Physicians may disagree about whether a particular service is necessary. Also, the indicators reflect the inherent uncertainty of claims data, which may not identify each service each time it is provided. Finally, no specific cause should be inferred when beneficiaries fail to obtain needed care. Needed services may not be provided for a number of reasons, including problems accessing the health care system, failure of providers to perform or recommend services, and/or failure of beneficiaries to follow provider recommendations to obtain care.

The indicators were developed as part of the Access to Care for the Elderly Project (ACE-PRO) by RAND. ACE-PRO sought measures of care that were both clinically meaningful and could feasibly be calculated from claims and administrative data. (For more information on this project, see Appendix A and Asch et al. 2000). ■

Programs to address rural access problems

Many conditions in rural areas present challenges to health care providers, including low service volume, longer travel times, difficulty in attracting providers, and greater dependency on Medicare patients and payments. In acknowledgment of these challenges and to increase beneficiary access to health services, the Congress has enacted a variety of programs to help rural facilities and health care professionals. For other services, such as ambulance and home health care, no special programs exist, but adjustments are made in the payment method to recognize the nature of the rural delivery system (see text box, p. 34, for a discussion of the types of rural adjustments for ambulance services). Major programs are discussed below, with a focus on the MIP. In addition, this chapter discusses Medicare's policy on telemedicine and identifies issues relating to its expansion.

Policymakers need to assess the need for any changes in these programs, given the Commission's reassuring findings on access to care as well as challenges to delivering care in rural areas (see Chapter 4). The findings on access are not only limited by the data but also are colored by the effects of existing private initiatives, public policies, and programs that have been implemented in an effort to address factors that may predispose rural Medicare beneficiaries—and rural

8 In 1998, 7 percent of beneficiaries in the traditional Medicare program who lacked supplemental coverage had trouble obtaining care in the past year, compared with 2 percent of those with private supplemental coverage (MedPAC 2000). In addition, 21 percent of those without supplemental coverage said they had delayed seeking care due to cost in the past year, compared with 4 percent of those privately covered. Nearly a quarter of those without supplemental coverage said they had no usual source of care (compared with 7 percent of those privately covered) and 43 percent had no physician office visit in the past year (compared with 16 percent of those privately covered).

9 In addition to the chi-square test analysis presented in Table 2-4, MedPAC performed a t-test analysis, which showed that the difference between rural and urban beneficiaries' likelihood to have supplemental insurance was statistically significant at the .05 level.

Payment policy issues for ambulance services in rural areas

A major concern of the Congress and Health Care Financing Administration (HCFA) in formulating policy on ambulance payment has been to take into account the unique concerns of rural areas. Ambulance suppliers serving beneficiaries in rural areas provide fewer services per year and make longer trips than urban suppliers, but have similar fixed costs to maintain ambulance capacity for emergency use and train personnel to respond to the full range of emergencies.

Medicare covers and pays for ambulance services if other means of transportation are contraindicated by the beneficiary's health condition. Services are paid under Part B with 20 percent coinsurance. Medicare currently pays for ambulance services provided by facilities on a cost basis and by independent, freestanding suppliers on a reasonable charge basis. The Balanced Budget Act of 1997 mandated the development of a fee schedule for ambulance services, but it has yet to be implemented as HCFA tries to resolve some outstanding policy issues.

Under the proposed rule, payment for both ground and air services is comprised of two components. First, ground and air services are paid a base rate adjusted for geographic cost differences (using one of the measures used to adjust physician payments). For air ambulance services only, this base payment is subject to a 50 percent add-on for beneficiaries picked up in non-metropolitan areas. The second component is a mileage payment. For rural ground services, a 50 percent add-on payment is applied to the first 17 miles traveled; for air services, the add-on is applied to all miles traveled.

These adjustments may be inadequate. Applying the rural adjustment for all services to beneficiaries in non-metropolitan areas will not appropriately target payments to providers in isolated areas who typically have very low volumes. Also, the lack of a rural adjustment to the base rate for ground ambulance services may not adequately compensate these providers for their fixed costs.■

residents generally—to problems with access to health care. Failure to find access problems might reflect the success of such efforts or suggest a lack of underlying need for them.

Facility-based programs

Congress created two programs to improve beneficiary access to hospital services in rural areas (see Chapter 4 for a discussion of related payment issues).

- *Critical access hospitals.* This program is intended to ensure that beneficiaries in isolated rural communities have access to emergency room services and limited inpatient services. It is designed to provide an adequate financial base for facilities located in rural areas that cannot support a full-service hospital.

- *Sole community hospitals*. The intent of this policy is to maintain access to needed health services for beneficiaries in isolated communities. This policy provides higher payments to hospitals that are farther than 35 miles from the nearest hospital and meet other criteria designed to establish that they are the community's sole source of care. To qualify, a hospital also must have above-average costs in a base year for the mix of patients it serves. In 2000, 640 hospitals were designated sole community hospitals.

Rural health clinics

The rural heath clinic (RHC) program was established in 1977 to encourage and stabilize the provision of primary care services in underserved rural areas through the use of physicians, physician assistants, nurse practitioners and certified nurse midwives. RHCs must be located in communities that are both rural (as defined by the Bureau of the Census) and underserved (a federally designated HPSA or medically underserved area, or an area designated by the state's governor as underserved).

To operate as an RHC, certain staffing requirements and levels of service must be maintained. A physician assistant, a nurse practitioner, or a certified nurse midwife must be on site and available to see patients 50 percent of the time the clinic is open. Nonphysician practitioners must be supervised by a physician. Furthermore, RHCs must directly provide diagnostic and therapeutic services commonly furnished in a physician's office, as well as basic laboratory services and other tests. They must also make emergency services available.

RHCs are paid using an all-inclusive rate. Most of them are subject to a per-visit cap ($63.14 in 2001). Because of this payment method, RHC claims generally do not specify the services provided, making it difficult to assess beneficiary use.[10]

Medicare incentive payment program

Created in 1989, the MIP program pays bonus payments to physicians who practice in HPSAs in an effort to entice more physicians to those areas. Although the effectiveness of the program is difficult to ascertain, a recent decline in the bonus payments to physicians is cause for concern. Several aspects of program design have been identified as compromising its effectiveness.[11]

10 This problem confounds some of the claims research assessing propensity to seek care, as noted earlier in this chapter.

11 RAND is expected to publish an evaluation of the MIP program later in 2001.

- *MIP bonus payments may be insufficient to attract physicians.* The bonus payments, calculated as 10 percent of the Medicare program payment for physician services (excluding beneficiary coinsurance), may be too small to have a significant influence on recruitment or retention of primary care physicians (OIG 1994a, GAO 1999). In 1996, 75 percent of, or about 18,700, participating rural physicians received less than $1,520 in bonus payments for the year. The low level of payments may be attributable in part to carriers being required to review claims of physicians who receive the largest bonus payments (HCFA 1999). This policy may discourage physicians from applying.

- *MIP payments may be inappropriately targeted for several reasons*. First, nurse practitioners and physician assistants, who provide a significant percent of primary care in rural areas, are not eligible for bonus payments. The MIP program may be more effective in improving access to primary care if these providers, in addition to physicians, were eligible for payments.

  Second, the HPSA designation system may overestimate the need for primary care providers in some areas (GAO 1995). The HPSA designation is based only on the ratio of the population to primary care physicians (such as general and family medicine practitioners). Specialists, international medical graduates with J-1 visas, National Health Service Corps workers and nonphysician providers who may render primary care services are not included in the calculation of the ratio. As part of a larger effort to refine the HPSA definition, the Health Resources and Services Administration recently proposed including nonphysician providers and some previously excluded categories of physicians in the calculation of the ratio. This rule was withdrawn but may be reissued later this year.

  Third, although specialists are not counted for the purposes of HPSA designation, they are eligible for bonus payments. Such eligibility may be appropriate because specialists provide primary care, but excluding them from the count for HPSA designation means that an area could qualify for HPSA status even if it had an abundance of specialists.

  Finally, although HPSA designations are required to be updated annually, only about one-third of the HPSAs are actually reviewed each year (Thornburg 2001). Therefore, some existing HPSAs may no longer meet the critical ratio threshold.

- *Instability of the HPSA designation.* The inherent instability of the HPSA designation may limit the effectiveness of the MIP program for recruitment and retention of physicians in underserved areas (OIG 1994b, PPRC 1992). When shortage areas are periodically reassessed as required by law, an addition of even one physician may reduce the population-to-physician ratio enough to disqualify an area. Although withdrawal of a designation could be a legitimate indication that an area is self-sufficient, it may be that retention of physicians in that community is dependent on the HPSA bonus payment. One option to address this problem is to provide bonus payments for an additional three years in areas in which HPSA status is withdrawn because of an increase in physician supply.

Medicare payment for telemedicine services

Telemedicine, the use of electronic communication and information technologies to provide or support clinical care at a distance, offers the potential to improve access to care in rural areas.[12] Although telemedicine has been supported by a number of federal and private grant initiatives, many observers feel that widespread dissemination for patient care has been hampered by a lack of reimbursement, provider and patient acceptance, and infrastructure; the need for physicians using telemedicine across state lines to obtain medical licenses in multiple states; and limited evidence of clinical efficacy. Evidence on telemedicine's efficacy is limited because research is often specific to the application of a particular technology, such as sonograms, and it is difficult to get adequate sample size due to sparse rural populations.

Although the Commission appreciates telemedicine's potential to improve rural beneficiaries' access to care, we believe that the effects of recent legislative changes and demonstration activity warrant review to determine if and which additional changes in Medicare policy are needed. To assist policymakers in evaluating whether change is needed, this discussion provides an overview of Medicare payment policy and identifies several issues policymakers may want to consider.

Medicare payment policy

Although Medicare payment for telemedicine services has been limited in the past, recent changes have expanded coverage. Before the BBA, most Medicare carriers paid the same fees for certain services, such as the reading of X-rays or pathology slides, regardless of whether telecommunications services were used. In addition, Medicare has traditionally provided payment for several services that expressly involve telemetry, including the remote, real-time monitoring of pacemakers and the reading of electroencephalograms and electrocardiograms.

The BBA allowed Medicare to pay for interactive, real-time telemedicine consultations among the patient and the referring and consulting clinicians for the first time. However, payment for teleconsultation services applied only to services involving the use of both interactive audio and video that were provided to beneficiaries living in rural

12 There is no consensus on a single definition of telemedicine. Telemedicine and telehealth are sometimes referred to interchangeably.

HPSAs. Payment was split between the consulting and referring clinicians in a 75-25 percent ratio, and there was no separate facility fee.

The Medicare, Medicaid, and SCHIP Beneficiary Improvement and Protection Act of 2000 (BIPA) eliminated many of the restrictions imposed by the BBA. It allows Medicare to pay for telemedicine consultations in rural areas regardless of HPSA designation, eliminates the fee-splitting requirement so the consultant receives the full Medicare payment, provides a $20 facility fee to be annually updated after 2002, and permits the use of telemedicine in the delivery of home health care. The legislation also allows Medicare to pay for telemedicine consultations provided through federally funded projects in Alaska and Hawaii that use store-and-forward technologies.

Does Medicare policy need to be changed?

If policymakers are interested in expanding the use of telemedicine to improve access to care, two types of coverage expansions could be explored: coverage of asynchronous store-and-forward technology for telemedicine consultations and increased discretion to substitute some in-person home health visits with telemedicine. In asynchronous store-and-forward technology, a diagnostic test is performed on the patient and then sent electronically to the consulting physician for review at a later time. Under either of these policy options, policymakers must be careful that telemedicine is appropriately used as a substitute for traditional in-person care or for necessary care that would not have otherwise been received in a timely manner.[13]

Expanded coverage for store-and-forward technology Asynchronous store-and-forward services surmount the logistical and financial constraints associated with the delivery of interactive, real-time telemedicine services in rural areas. These constraints include costs associated with the use of high bandwidth, interactive technologies, and coordination of physicians' schedules. One study found that it could take up to 25 phone calls to set up a meeting (IOM 1996). Store-and-forward telemedicine services use lower bandwidth and require less logistical coordination between clinicians, compared with real-time interactive telemedicine services.

One concern about covering asynchronous telemedicine is the potential for overuse. The Health Care Financing Administration has noted that coverage of store-and-forward teleconsultations could potentially result in a substantial increase in the number of teleconsultations without any relation to medical necessity (Berenson 2000). The infrastructure barriers that have so far precluded widespread dissemination of telemedicine may temper this potential at least initially, however. A second concern is that—with the exception of teledermatology—available efficacy data are insufficient to determine whether expanding Medicare's coverage for teleconsultations is clinically warranted (AHRQ 2001). There are cost implications related to limitations in the data on clinical efficacy because clinicians may be more inclined to verify a telemedicine diagnosis with an in-person diagnosis if the accuracy of the telemedicine diagnosis is uncertain. On the other hand, cost may not be a concern if patients are faced with a choice of receiving telemedicine services or receiving no or inadequate care.

Expanded coverage for telemedicine services used by home health providers The BIPA prohibited the substitution of telemedicine services for in-person visits under the new home health prospective payment system. Although substitution of telemedicine home health care for in-person visits ordered by a physician is often not appropriate, it may be warranted under certain circumstances. Preliminary evidence suggests that the use of telemedicine in combination with in-person home health visits may improve health outcomes and enhance quality of care (Burgiss 2000, Johnson et al. 2000). ■

13 For instance, the Kentucky legislature explicitly excluded e-mails, faxes, and telephone calls from being considered "telemedicine."

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CHAPTER 3

Quality of care in rural areas

RECOMMENDATIONS

3A The Secretary should require the peer review organizations to include rural populations and providers when carrying out their quality improvement activities.

***YES: 14 • NO: 0 • NOT VOTING: 1 • ABSENT: 1**

3B MedPAC reiterates its June 2000 recommendation that the Congress should require the Secretary to survey at least one-third of each facility type annually to certify compliance with the conditions of participation.

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

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 3

Quality of care in rural areas

In this chapter

- Quality of care delivered to rural beneficiaries
- Quality improvement and assurance in rural areas

Although ensuring that beneficiaries have access to medically necessary care of high quality is one of the primary objectives of the Medicare program, rural quality of care issues have received little attention in Medicare policymaking. MedPAC's research on the quality of care in rural areas is largely encouraging. As measured by the use of recommended services, quality of care is roughly comparable among rural counties of varying proximity to metropolitan areas, as well as between rural and metropolitan areas. However, Medicare's systems for improving and safeguarding quality could be strengthened to deal more effectively with issues in rural areas. Improving care in rural areas is not an articulated task on Medicare's current quality improvement agenda; the Secretary should include rural populations and providers when carrying out Medicare's quality improvement activities. In addition, the Secretary should address a critical problem with Medicare's system for safeguarding rural care by requiring more frequent surveying of providers to ensure the care they deliver meets minimal standards for quality and safety.

One of the primary objectives of the Medicare program is to ensure that beneficiaries have access to medically necessary care of high quality. Although the Congress recently enacted special payment programs to address the adequacy of rural health care financing and access to care, rural quality of care issues have received less attention in Medicare policymaking. Policymakers also need to consider quality issues when developing policy that affects rural health care. Delivering quality care in rural settings can be challenging, and Medicare's efforts to safeguard and improve the quality of that care could be improved. This chapter aims to assess the quality of care delivered in rural settings, discuss the implications of Medicare's systems to measure rural quality of care, and examine Medicare's programs intended to safeguard and improve rural beneficiaries' access to quality care.

In the first section, we assess rural quality of care by looking at whether beneficiaries receive certain recommended services. Use of recommended preventive, acute, and chronic care is similar for beneficiaries living in rural and metropolitan (urban) areas, but large gaps exist between the care that beneficiaries should be receiving and what they actually receive. Rural providers face challenges in furnishing certain types of high-tech procedures and therapies because of low service volumes. By virtue of their location, rural providers treat fewer patients for many types of services than do their non-rural counterparts. Opportunities exist to improve the quality of care furnished to rural and urban beneficiaries by measuring the quality of care.

In the second section, we examine how Medicare influences the quality of care in rural areas and find that quality improvement activities performed by peer review organizations do not give sufficient attention to care furnished in rural areas. Given research findings suggesting that opportunities exist for improving quality in rural areas, MedPAC recommends that the Secretary require peer review organizations to include rural populations and providers when carrying out quality improvement activities.

Next, we consider Medicare's consumer empowerment activities in the context of rural health care. Readily available data on the quality of care may be especially useful for rural beneficiaries, who may trade the convenience of obtaining care from local providers for receiving different or additional services furnished by non-local providers.

Finally, we consider issues related to Medicare's quality assurance activities, particularly in the use of performance measures in providers' conditions of participation and the frequency of surveying providers. Performance measures represent a significant opportunity to ensure the quality of care furnished to beneficiaries. Nonetheless, the Commission recognizes the burden that collecting performance data may place on small rural providers and believes that the Secretary should consider this burden when revising conditions of participation. With respect to the frequency of surveying providers to ensure they are meeting conditions of participation, we find that Medicare's efforts to survey non-accredited providers, including acute care hospitals, are lacking. MedPAC reiterates its recommendation of June 2000 that Congress require the Secretary to survey at least one-third of each facility type annually to certify compliance with the conditions of participation.

Quality of care delivered to rural beneficiaries

To address the question of whether rural beneficiaries have access to medically necessary care of high quality, the Commission reviewed available evidence on the quality of care furnished to rural beneficiaries, particularly the extent to which differences exist among rural areas based on their population size and proximity to an urban area, as well as between rural and urban areas. The Commission also considered Medicare's efforts to improve quality by measuring the care furnished to both rural and urban beneficiaries.

Rural beneficiaries' use of recommended services

Clinical quality of care is often measured by the extent to which beneficiaries receive recommended acute, chronic, and preventive services and the outcomes of that care. Many performance indicators currently used by Medicare represent minimal standards of care recommended by panels of expert clinicians, rather than optimal practice patterns, and measure the underuse of services considered clinically appropriate. Underuse of services can suggest a problem with quality, a lack of availability of services or the presence of barriers to obtaining services. Other ways to examine quality include measuring the overuse of services, such as when beneficiaries receive too many diagnostic procedures, and the misuse of services, such as when beneficiaries are prescribed multiple medications that should not be given together. Underuse, overuse, and misuse of services can result in treatment complications and inefficient use of resources.

A recent study commissioned by MedPAC assessed whether differences existed in the use of recommended services in rural and urban areas in 1998-1999 (Hogan 2001).[1] This analysis uses two types of indicators: those reflecting minimum standards of recommended care (necessary care indicators) and those representing potentially avoidable emergency or urgent care (avoidable outcome indicators). The 40 necessary care indicators measure the use of preventive care and care for acute and chronic conditions. The six avoidable outcome indicators measure the occurrence of avoidable outcomes for

1 This analysis used Medicare claims and enrollment data for calendar years 1998 and 1999. Rural counties were classified using the urban influence code county typology, developed by the Economic Research Service of the United States Department of Agriculture. Recommended care denotes care for which: 1) the benefits of care outweigh the risks, 2) the benefits to the patient are likely and substantial, and 3) physicians judged that not recommending the care would be improper. The results of this study are available upon request from MedPAC.

beneficiaries with diabetes, angina, chronic obstructive lung disease, pneumonia, congestive heart failure, or gall stones. Appendix A lists these 46 indicators.

Results suggest that the provision of recommended care and the occurrence of potentially avoidable outcomes is roughly comparable between rural and urban beneficiaries. Using an index that equally weighted each of the 46 indicators and adjusted for differences in the age-sex mix of the population, this study showed that the average proportion of beneficiaries who received necessary care ranged from 72 to 74 percent in counties with varying degrees of ruralness (Table 3-1).

Beneficiaries living in remote rural counties were somewhat less likely than urban beneficiaries to receive three types of care: electrocardiograms, except during emergency room visits; timely follow-up after hospital discharge; and mammograms. In addition, some types of potentially avoidable care (multiple emergency room visits for angina, admissions for beneficiaries with pulmonary disease) were higher in remote rural counties.

The data presented in Table 3-1 may underestimate the use of recommended care. All services provided during medical encounters may not be reported in Medicare's claims system. For example, eye exams delivered as part of routine office visits would not be identified. In addition, separate professional service claims may not be generated for services delivered by interns and residents. Services for which Medicare denied payment are not included in this analysis. Finally, specific services furnished by rural health clinics are not included in this analysis. Notwithstanding, this analysis does provide a quantitative sense of what can be done to improve quality of care in both rural and urban areas.

Although some of the differences found in MedPAC's study on the use of recommended services may partly reflect real differences in the quality of care,

TABLE 3-1

Aggregate use of recommended services by beneficiaries in 1998–1999, by location of county

Location of county (UIC)	Percentage of beneficiaries receiving recommended care
All counties	73.3
Urban, in an MSA (1, 2)	73.2
Rural	
Adjacent to an MSA and includes a town with at least 10,000 people (3, 5)	73.7
Adjacent to an MSA but does not include a town with at least 10,000 people (4, 6);	73.0
Not adjacent to an MSA but includes a town with at least 10,000 people (7)	74.0
Not adjacent to an MSA but includes a town with between 2,500 and 10,000 people (8)	71.4
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	71.5

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area as defined by the U.S. Office of Management and Budget). These results are based on ordinary least squares regression analyses, which estimated equally-weighted summary indices of the 46 performance indicators, adjusted for differences in the age-sex mix of the population. Differences between counties in an MSA and each rural county category are statistically significant ($p < 0.01$) due to the large number of observations present in the regression.

Source: Hogan 2001.

some may also reflect barriers faced by beneficiaries in accessing services. Because the study was retrospective, it was difficult to disentangle the effect of barriers inhibiting access to care from poor quality of care. Access can be more difficult in rural areas because of economic and transportation barriers. For instance, a greater proportion of rural beneficiaries have lower annual incomes, lack private supplemental insurance, and need to travel longer distances to seek care, all of which have been linked to less frequent use of certain types of services. See Chapter 2 for an explanation of other factors affecting rural beneficiaries' access to care.

One important factor that may affect the quality of care in rural areas is the low patient service volume. A growing body of evidence shows an association between higher service volume furnished by acute-care hospitals and improved clinical outcomes of care, particularly for high-tech procedures and therapies. Most of the studies focused on high-tech surgical procedures, such as coronary artery bypass graft surgery and coronary angioplasty, rather than on other types of interventions, but these studies also assessed treatment of myocardial infarction and acquired immunodeficiency syndrome.[2] Reasons for the positive association between outcomes and volume, first proposed by Luft et al. (1979), include:

- the improved technique that results from greater experience,
- the selective referral of patients to high-volume providers, and
- treatment of sicker patients by low-volume providers.

The findings from these studies on inpatient care present a clear challenge for rural providers, because by virtue of their location in less populated areas, they treat

2 A recent review of the literature in this area showed that the more generalizable of these studies assessed the volume/outcomes relationship for coronary artery bypass graft surgery, pediatric cardiac surgery, carotid endarterectomy, abdominal aortic aneurysm repair, cancer surgery, percutaneous transluminal coronary angioplasty, acute myocardial infarction, and acquired immunodeficiency syndrome (Halm 2000).

lower volumes of patients for many types of services than do their non-rural counterparts.

Although the gap in quality of care (as measured by the use of recommended services) between rural and urban settings was less than we anticipated, MedPAC remains concerned about the discrepancy between the care both rural and urban beneficiaries should receive and the care they do receive. This gap exists for all three types of care—preventive, acute, and chronic. MedPAC's finding that an average of 73 percent of beneficiaries receive recommended services suggests the continued need to improve quality of care for all beneficiaries. Other recent studies confirm that beneficiaries do not always receive the care related to the initial evaluation, follow-up, and monitoring of medical conditions that meets professional standards. Jencks and colleagues (2000) showed that in 1997-1999, 69 percent (the median value) of beneficiaries received recommended care, as measured by 24 performance indicators related to primary and secondary disease prevention. Asch and colleagues (2000) examined the provision of 37 recommended services during 1994-1996 and found that beneficiaries received 14 of these services less than two-thirds of the time. The results of these studies show that Medicare beneficiaries, regardless of whether they reside in rural or urban areas, often do not get the care that clinical experts considered to represent minimal quality standard.

Rural beneficiaries' satisfaction with care

Although measures of the clinical quality of care consider the provision of necessary services by health care providers, satisfaction measures consider beneficiaries' perceptions and expectations. Providers are increasingly collecting and using information on patient satisfaction to improve the quality of care they deliver. This information can reflect actual differences in quality of care as well as differences in patient perceptions and expectations.

MedPAC's analysis of data from the 1999 Medicare Current Beneficiary Survey (MCBS) shows that the majority of rural and urban beneficiaries appear to be satisfied with their care. For example:

- about 94 percent of both rural and urban beneficiaries were very satisfied or satisfied with the availability of medical care,
- about 96 percent of both rural and urban beneficiaries were very satisfied or satisfied with the overall quality of care, and
- about 96 percent of both rural and urban beneficiaries were very satisfied or satisfied with the care they received from specialists.

Two aspects of satisfaction with care significantly differed between rural and urban beneficiaries—the ease of getting to a doctor and believing their physician "checks everything." About 90 percent of beneficiaries residing in rural counties containing a town with fewer than 10,000 people reported being very satisfied or satisfied with the ease of getting to a doctor, 5 percentage points lower than urban beneficiaries. This difference may reflect the transportation barriers faced by rural beneficiaries in using health care services, including a lack of alternative transportation services, such as van services and taxis. At the same time, 96 percent of beneficiaries residing in rural counties not adjacent to an MSA but including a town with more than 10,000 people reported that they strongly agreed or agreed that their physician "checks everything," 2 percentage points higher than urban beneficiaries.

Improving efforts to measure the quality of care in rural settings

Opportunities exist to improve the quality of care furnished to rural and urban beneficiaries. One component of the Health Care Financing Administration's (HCFA's) national initiative to enhance the quality of care provided to beneficiaries is promoting efforts to measure the quality of care, which the agency believes is the essential foundation for improving care (Jencks 1995). HCFA's goal is to create a system of quality indicators that support improvement across all Medicare services.

During the past decade, HCFA has initiated a number of initiatives to measure the quality of care furnished by fee-for-service providers and managed care plans. HCFA's measurement activities for traditional Medicare have focused on developing clinical performance measures to assess the care provided by particular providers (skilled nursing facilities, home health agencies, and renal dialysis facilities). The agency is extending its measurement activities to assess inpatient care nationally and statewide for the following clinical areas: acute myocardial infarction, heart failure, stroke, and pneumonia (Jencks 2000). HCFA's measurement activities for managed care organizations requires health plans to collect information on the use of recommended services and beneficiaries' functional status and satisfaction with care.

As Medicare's quality measurement system continues to evolve, several issues related to rural health care delivery should be addressed. First, performance measures that assess the delivery of health care in rural areas should reflect the types of care that are furnished in these areas. Second, quality measurement systems should take into account the low volume of services furnished by small rural and urban providers to ensure the validity of the results. In addition, to the extent possible, performance data should be adjusted for factors (such as age and comorbidities) known to affect them. Without adjustment, data may not reflect the actual performance of providers who treat relatively more patients with lower health and socioeconomic statuses. Finally, when imposing new data collection and reporting requirements, Medicare should consider that small providers in both rural and urban areas are less likely to have technological support for monitoring and tracking patient care and the resources to acquire automated information management systems, a key tool in quality measurement systems.

MedPAC is continuing to study issues surrounding Medicare's efforts to measure quality of care. The Commission is currently examining issues about Medicare's application of standards for measuring, assuring, and improving care among Medicare+Choice (M+C) and fee-for-service providers. A report on the Commission's findings will be published in December 2001, as required by the Balanced Budget Refinement Act of 1999.

Quality improvement and assurance in rural areas

Like other purchasers and health plans, Medicare employs a variety of strategies to influence quality. The program's quality assurance (QA) activities help to ensure that health care providers have the capacity to furnish safe care of adequate quality. HCFA establishes health and safety standards for providers and suppliers that furnish care to Medicare beneficiaries and enforces these standards through its survey and certification efforts. Two recent additions to Medicare's quality systems include its quality improvement (QI) and consumer empowerment activities. Quality improvement—also known as continuous quality improvement or total quality management—has been adopted for use in many industries and has recently begun to influence health care industry practices (Shortell et al. 1998). Medicare's QI activities aim to improve the average quality of care furnished to beneficiaries by helping providers assess their performances, make changes, reassess quality, and strive for continuous improvements. Medicare's consumer empowerment activities provide beneficiaries with information to help them make more informed choices about health plans and providers. Consumer empowerment activities aim to improve beneficiaries' satisfaction with and increase the value of the health care they obtain.

Strengthening quality improvement activities

Quality improvement efforts are based on the notion that improving the average quality of care furnished by providers is an important goal that can be attained in a blame-free environment. In 1992, HCFA initiated the Health Care Quality Improvement Program, under which Medicare's contractors, the peer review organizations (PROs), worked with participating providers to evaluate and improve practice patterns. The program has evolved over successive three-year contracting cycles from a relatively decentralized program under which each state-based PRO chose quality improvement targets, measures, and measurement methods to the current system, which requires the PROs to use nationally standardized measures and methods to assess and improve care provided in six clinical priority areas determined by HCFA. Medicare does not require that hospitals, physicians, or any other providers or health plans participate in the PROs' QI efforts. Instead, providers may choose to participate because of an interest in evaluating and improving the quality of care furnished and because participation may be used to satisfy requirements of purchasers, state regulatory authorities, or accrediting bodies.

As currently designed and operated, Medicare's efforts to improve quality of care may not be as effective as they could be in addressing the quality of health care in rural areas. The system is designed such that the PROs have incentives to focus their attention on large (usually urban) providers.

Under the current contract (the so-called sixth scope of work), the PROs are responsible for completing three tasks to improve the quality of care for Medicare beneficiaries: national quality improvement projects, local quality improvement projects, and quality improvement projects with M+C plans. PROs must meet the performance standards for each of the tasks to be eligible for the noncompetitive renewal of their contracts.

The task on national quality improvement requires the PROs to pursue QI activities in six clinical areas—acute myocardial infarction, breast cancer, diabetes, heart failure, pneumonia, and stroke. The Secretary selected these clinical areas based on their public health importance and the feasibility of measuring and improving quality. The PROs must analyze practice patterns, furnish providers with performance data and benchmark points of comparison, and use interventions such as education, training, and outreach to improve a state's average quality of care scores by a specified amount over the contract cycle. HCFA evaluates the success of each PRO's national QI activities by measuring the organization's combined improvement on the 22 performance indicators (Table 3-2) on a statewide basis.

The second task in the PROs' current scope of work requires them to perform three types of local QI projects within their state:

- projects designed to reduce disparities between the care furnished to beneficiaries who are members of a targeted disadvantaged group and all other beneficiaries residing in the state;[3]
- projects in settings other than acute-care hospitals, such as nursing homes, dialysis facilities, home health agencies, or physicians' offices; and
- projects in response to local interests and needs.

HCFA evaluates the success of the PROs' local efforts quantitatively and qualitatively. For projects that use well-developed methods and quality indicators, the agency uses the indicators to determine the extent to which quality improved. Other projects are evaluated by measuring the amount of knowledge gained through the experience of the project.

3 Targeted groups include African-Americans, Hispanics, American Indians and Alaskan Natives, Asians and Pacific Islanders, and Medicare beneficiaries who are dually eligible for Medicaid benefits.

TABLE 3-2

National health improvement clinical topics and performance indicators for the peer review organizations

Clinical topic	Performance indicator
Acute myocardial infarction (inpatient)	Early administration of aspirin
	Aspirin at discharge
	Early administration of beta blockers
	Beta blockers at discharge
	ACE inhibitor for low left ventricular ejection fraction at discharge
	Time to initial reperfusion
	Smoking cessation counseling during hospitalization
Heart failure (inpatient)	Appropriate use of ACE inhibitors at discharge
Pneumonia (inpatient)	Influenza vaccination or appropriate screening
	Pneumococcal vaccination or appropriate screening
	Blood culture before antibiotics are administered
	Appropriate initial empiric antibiotic selection
	Initial antibiotic dose within eight hours of hospital arrival
Pneumonia (outpatient)	Influenza immunization
	Pneumococcal immunization
Stroke (inpatient)	Antithrombotic at discharge (acute stroke or transient ischemic attack)
	Warfarin at discharge (atrial fibrillation)
	Avoidance of sublingual nifedipine (acute stroke)
Diabetes (outpatient)	Biennial retinal exam by an eye professional
	Annual hemoglobin A1C testing
	Biennial testing of lipid profile
Breast cancer (outpatient)	Biennial screening mammography

Note: ACE (angiotensin converting enzyme). The above performance measures are used by the peer review organizations in the national quality improvement activities set forth in their sixth scope of work. Data sources for the performance indicators listed above include: 1) hospital medical records for acute myocardial infarction, congestive heart failure, pneumonia, and stroke inpatient measures; 2) Medicare claims data for breast cancer and diabetes measures; and 3) the Cener for Disease Control and Prevention's Behavioral Risk Factor Surveillance System for pneumonia outpatient measures.

Source: HCFA 2001

The third task in the PROs' current scope of work requires them to assist managed care plans that want to develop QI programs required as part of the Quality Improvement System for Managed Care. HCFA evaluates the success of the PROs' managed care efforts by assessing changes in statewide baselines over time and by evaluating the amount of knowledge gained through the experience of the project.

The current contract does not preclude the PROs from working with small rural and small urban providers, but it does not explicitly encourage them. PROs face incentives to target their national quality improvement efforts to large (usually urban) providers, which offer the largest potential for pay-off in terms of improving statewide average performances if improvement programs are successful. Urban providers tend to be more accessible, thereby reducing labor and travel costs for PRO staff. Although the PROs must perform local QI projects, the current contract does not provide any incentives for them to include rural beneficiaries or providers. Rural beneficiaries are not included as one of the disadvantaged population groups in the current scope of work, nor should they be. Doing so might detract attention from groups that have received demonstrably poorer care compared with rural populations. The PROs may include rural providers in their local projects for improving care in settings other than acute-care hospitals or in response to local interests and needs, but they are not required to do so. In contrast to their current contract, the PROs' previous contract (fifth scope of work) enabled them to focus more attention on local and state quality issues and populations because their performance was evaluated based on the number of projects completed during the contract period.

RECOMMENDATION 3A

The Secretary should require the peer review organizations to include rural populations and providers when carrying out their quality improvement activities.

Although MedPAC recommends that PROs include a spectrum of rural beneficiaries and providers in their QI efforts, it is not the Commission's intent to shift the direction of national quality improvement activities now articulated in the Health Care Quality Improvement Program. Instead, MedPAC believes PROs should be encouraged to consider rural settings under the next scope of work, because rural providers have fewer incentives to perform QI than do large urban providers and previous QI activities improved the quality of care among certain rural providers.

Rural providers face less market pressure to improve performance because they are less likely to participate in managed care plans or be part of purchasing coalitions' efforts to address quality. Small rural providers are also less likely to have their own information systems for measuring and improving quality than larger providers, and often have fewer resources to devote to QI. For these reasons, the QI activities of the PROs could augment the limited internal resources of small rural providers.

Further, several efforts under the PROs' previous contract did succeed in improving the quality of care among certain rural providers. For example:

- The proportion of "ideal candidates" with a confirmed acute myocardial infarction who received thrombolytics or percutaneous transluminal coronary angioplasty within 12 hours of hospital arrival increased to 59 percent from 44 percent for small rural hospitals in Oklahoma (AHQA 2001).
- The proportion of "ideal candidates" with a confirmed acute myocardial infarction who received daily aspirin during hospitalization increased to 84 percent from 78 percent for small rural hospitals in Oklahoma (AHQA 2001).
- Pneumococcal vaccination rates for residents of long-term care facilities in four rural Western states rose to 75 percent from 40 percent (Stevenson et al. 2000).
- The proportion of ideal acute myocardial infarction candidates in Iowa who were prescribed aspirin at discharge increased to 80 percent from 63 percent (AHQA 2001).

To add rural health care to the list of required performance improvements in the PROs' next (seventh) scope of work, which is currently in development, the Secretary could include rural health care delivery as one of the local QI projects. Alternatively, the Secretary could add a separate rural health care delivery task.

It will be important for the Secretary to set forth objectives in the PROs' next scope of work to guide them in performing QI projects in rural settings. Specifically, the Secretary will need to consider whether rural health care QI efforts should focus on national clinical topics (described in Table 3-2) or whether individual PROs should develop and implement rural QI projects, based on the notion that the organizations are best able to work with local providers to identify specific quality concerns. Many of the national indicators are applicable to rural health care delivery, as they focus on several conditions relatively common among rural beneficiaries—acute myocardial infarction, diabetes, and pneumonia—and several processes of care commonly furnished in rural settings. The PROs' local projects to reduce racial and ethnic disparities in health require them to use the nationally standardized quality indicators. In contrast, the PROs' local projects to improve quality in non–acute-care hospital settings allow them to focus on clinical topics and use quality indicators other than those articulated in Medicare's national QI efforts.

When designing QI efforts for rural settings, the PROs also will need to consider issues specific to rural settings, including the lower patient volume and limited staff and resources. Low volume leads to less precision in QI measurement results because results can be swayed by even a few extreme cases. Results of quality measurement for rural providers could appear more dire or more positive in statistical calculations than may actually be the case. In addition, small rural providers often lack the resources to devote staff time to quality improvement and are less likely to have staff that focus exclusively on such work. Lack of an automated information infrastructure means that collecting data is more time and labor intensive.

By creating payment policies targeting rural providers, such as the Medicare Rural Hospital Flexibility Program, the Congress has demonstrated its interest in ensuring that rural beneficiaries have local access to certain inpatient and ambulatory services. In addition to ensuring access, Medicare needs to continue efforts to improve the quality of care for rural beneficiaries. The gap between the care that beneficiaries should receive and the care they do receive creates substantial opportunities for the PROs to improve quality in both rural and urban settings. Although it would be more efficient to focus QI activities on large urban providers (because such providers treat a greater proportion of beneficiaries than do rural providers), such an approach would not be equitable. As a public program, Medicare should seek to ensure high–quality care for all beneficiaries, regardless of where they live.

Finally, depending on the approach decided upon by the Secretary, the PROs may require additional funding to meet their new responsibilities without detracting from other QI efforts. MedPAC's recommendation is not meant to divert funds from QI efforts in urban areas to efforts in rural areas. Therefore, when developing the next scope of work for the PROs, the Secretary will need to evaluate the budget impact of different alternatives for including rural populations and providers in PRO activities.

Improving consumer empowerment activities

Medicare is increasingly releasing information about the performance of managed care and fee-for-service providers to beneficiaries. In the late 1990s, HCFA established its "Medicare Compare" site on the World Wide Web, which offers basic comparative information on the Medicare program, managed care options, and the quality of care furnished by skilled nursing facilities. In 2000, the site was expanded to include information about the quality of care furnished by dialysis facilities. Information is not yet available for other providers, such as acute-care hospitals, home health agencies, and physicians.

The assumption surrounding the release of performance data is that consumers will use the information to choose providers that furnish high-quality care, and the collective effect of those choices will give providers an incentive to improve care (Hibbard et al. 2000). Information may be especially useful for rural beneficiaries who may in some cases trade off the convenience of obtaining care from local providers to receive different or additional services furnished by non-local providers. MedPAC's recent analysis of acute-care hospital services shows that beneficiaries residing in rural counties are more likely to use hospitals outside their county of residence compared with beneficiaries residing in metropolitan counties.

According to Buczko (1994), rural beneficiaries who use non-local hospitals do so primarily to seek specialized services.

Although evidence is growing that consumers want more information about providers' performance, it appears that the release of performance information has had only a limited impact on consumer decision making (Marshall et al. 2000). The primary audience for publicly available performance data tends to be the providers being measured, rather than consumers (Goldfield et al. 1999). Reasons for consumers' lack of interest in and use of performance data include difficulty understanding the information, lack of trust in the data, problems with timely access to the information, and lack of choice. In addition, evidence suggests that consumers rate anecdotal evidence from family and friends more highly than they do systematic empirical evidence.

Medicare policymakers must have reasonable expectations for both short- and long-term success of the informed choice initiative in Medicare. The initiative promises to improve beneficiaries' satisfaction with their care by informing choice and fostering appropriate decision-making, but empowering beneficiaries as value-based health care consumers is a long-term goal. In the short term, significant obstacles include limits in beneficiaries' knowledge of relevant health care concepts, unfamiliarity with alternatives in health care delivery, and uncertainty about how to use comparative information in making health care decisions. These problems may subside as beneficiaries with more experience making health care decisions enter the program.

The Commission has previously recognized the importance of furnishing information on quality of care to help beneficiaries compare providers in traditional Medicare and M+C enrollment options. Specifically, MedPAC has recommended that the Secretary develop and disseminate consumer-oriented information on quality of care to help beneficiaries compare enrollment options and providers (MedPAC 1999). Such information should include both geographic information on the quality of care furnished to beneficiaries enrolled in traditional Medicare and provider-specific information on the quality of care furnished by health care facilities and practitioners participating in the M+C program.

When publishing facility-specific information, HCFA should take steps to ensure the validity of the information reported and the comparisons made between providers. As mentioned previously, these steps include accounting for the low volume of services furnished by small providers in rural and urban settings in calculating measurement results and adjusting data for factors (such as age and comorbidities) known to affect them.

Ensuring quality of care in rural areas

Quality assurance—which aims to ensure that health care providers have the capacity to furnish safe care of good quality—is another component of Medicare's system to influence quality. Medicare's QA for institutional providers is essentially a regulatory process that involves establishing conditions of participation through a rulemaking process and assessing provider compliance with those conditions.[4] Conditions of participation consist primarily of structural requirements believed to ensure the capacity of providers to safely furnish high-quality health care; however, most requirements do not have a firm basis in evidence from health services research and have not been updated with changes in medical practices and technologies (MedPAC 2000). Compliance with conditions of participation is assessed either through a survey and certification process conducted by state agencies under contract to HCFA, or through a private accreditation process that HCFA has determined to be equivalent to its own.[5]

Last year, MedPAC reviewed Medicare's system for safeguarding and ensuring health care quality and found problems with the participation standards, the process for certifying compliance with those standards, the ability of HCFA to enforce compliance, Medicare's deeming arrangements, and the limited information available to consumers on certification findings (MedPAC 2000). The Commission set forth a series of recommendations to the Congress and the Secretary to address these problems by updating standards more frequently, funding the system adequately, strengthening sanctions, and making other changes. In addition, the Commission considered the use of facility-specific performance measures in Medicare's QA program and concluded that they represent significant opportunities to improve the program but need to be used appropriately.

Additional assessment of the system in the context of rural health care suggests that it is particularly ineffective in assuring that the care rural beneficiaries receive meets minimum standards for quality and safety. To assure that rural beneficiaries obtain high-quality care, policymakers must take steps to address weaknesses of the current system.

Collecting performance data from institutional providers

Medicare's participation requirements, like those of other public and private oversight bodies, are beginning to move away from structural proxies for quality toward requirements to measure processes and outcomes of care and to improve quality. As part of its effort to set performance standards, HCFA already requires certain providers—including home health agencies, long-term care

4 Program regulations distinguish health care providers from health care suppliers. The former are generally subject to conditions of participation (sometimes called requirements) and the latter to conditions of coverage. In this chapter, the term "provider" is used to refer both to providers (such as hospitals) and suppliers (such as renal dialysis facilities).

5 Because the hospital accreditation program of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is specified in law as satisfying Medicare and Medicaid participation standards, JCAHO's status is not dependent upon HCFA's assessment of its accreditation standards and compliance assessment methods.

facilities, and dialysis facilities—to collect performance data. The agency is considering modifying the program's conditions of participation to require reporting of standardized indicators, attainment of specified (minimum) performance levels, and improvement in specified aspects of performance. HCFA is also considering using performance measures to determine the appropriate frequency of site inspections, target specific quality concerns in the course of inspections, and monitor quality at facilities between inspections.

Small health care providers in both rural and urban areas face a number of challenges in collecting performance data. Because of resource constraints created by the scale of their operations, small providers may not be able to invest in systems to support quality measurement. Staffing shortages due to difficulties in recruitment and retention also affect the ability of small providers to measure quality or collect data for quality measurement. In addition, independent of resource limitations, low service volume makes quality measurement less precise.

Because of challenges faced by some small providers in collecting performance data, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requirements for performance measurement for acute-care hospitals, behavioral health care providers, and home health providers vary based on service volume. For example, JCAHO considers average daily census and the number of outpatient visits per month in its performance measurement requirements for acute-care hospitals.[6] In contrast, performance measurement requirements for long-term care facilities do not differ based on service volume.

Despite the difficulties faced by small providers in collecting performance data, the Commission reiterates its belief that performance measurement can help ensure high-quality care for beneficiaries (MedPAC 2000). Nonetheless, when incorporating performance measures in Medicare's QA requirements, the Secretary should consider the burden associated with collecting data and take steps to ensure that required items have an explicit rationale and are needed for quality assurance. In addition, performance measures should reflect the types of care delivered in rural settings. Finally, when carrying out these activities, the Secretary should seek input and assistance from experts in rural and urban health care.

Increasing the frequency of surveying institutional providers

Medicare sets participation standards for health care providers to ensure minimum standards for the quality and safety of care furnished to beneficiaries. Compliance with these conditions of participation occurs through the so-called survey and certification program, by which state agencies conduct on-site inspections of health care providers. In addition, the Secretary deems compliant with Medicare's standards providers who are certified by certain private accrediting bodies without having to submit to additional review. State survey and certification programs, which are partially funded by the Department of Health and Human Services, are the default quality oversight mechanism for unaccredited hospitals, as well as for other types of providers for which deemed status is unavailable or has not been attained.

Under current funding and legal requirements, most facilities are surveyed infrequently. Each year HCFA directs state survey agencies to conduct certification surveys on about 15 percent of non-hospital, non-long-term care facilities, which means an individual facility is surveyed once every 7.5 years (MacTaggart 1999).[7] Only long-term care facilities and home health agencies are surveyed on a more regular basis due to legal mandates requiring them to be surveyed yearly and every three years, respectively.

The infrequent surveying of institutional providers affects rural providers disproportionately. Rural providers are more likely to use the survey and certification program and less likely to be accredited compared with urban providers. As of 1996, less than 60 percent of rural hospitals were accredited by JCAHO (Brasure et al. 1999). In contrast, the vast majority of urban providers are accredited. As mentioned earlier, rural providers have fewer incentives to seek accreditation because purchasers and managed care plans have less ability to be selective in rural areas. In addition, rural hospitals do not pursue accreditation because of the costs associated with the process, which include the fees to the oversight body and the costs of preparing for the on-site inspection.

In our June 2000 report to the Congress, MedPAC recommended more frequent surveys of all institutional providers. The Commission repeats its recommendation here specifically to address concerns about infrequent surveys of rural institutional providers.

RECOMMENDATION 3B

MedPAC reiterates its June 2000 recommendation that the Congress should require the Secretary to survey at least one-third of each facility type annually to certify compliance with the conditions of participation.

Increasing the frequency of inspections would require adequate levels of funding for the Secretary to carry out these

6 JCAHO's current performance requirements for hospitals are as follows: 1) Hospitals having an average daily census of 10 or more and/or an average of 150 or more monthly outpatient visits need to collect and transmit information on 6 inpatient performance measures to JCAHO on a quarterly basis; 2) Hospitals having an average daily census of less than 10 and an average of 150 or more outpatient visits per month need to collect and transmit information on 6 ambulatory or inpatient performance measures to JCAHO on a quarterly basis; 3) Hospitals having an average daily census of less than 10 and an average of 150 or less outpatient visits per month are required to collect information on 6 performance measures, but are not required to transmit the data to JCAHO on a regular basis; rather, the data are reviewed during on-site surveys (JCAHO 2001).

7 These facilities include non-accredited hospitals, renal dialysis facilities, hospices, ambulatory surgical centers, rural health clinics, physical therapy providers, portable x-ray providers, and comprehensive outpatient rehabilitation facilities (HCFA 1998).

activities. MedPAC has previously recommended that the Secretary request, and the Congress appropriate, adequate levels of funding for survey and certification activities to enable HCFA and state survey agencies to increase the frequency of inspections and take other steps to strengthen the quality oversight process (MedPAC 2000). Others also believe that funding for state survey and certification responsibilities has been inadequate for years (Morris 1999).

Currently, HCFA seeks and obtains funds for its survey and certification activities through the normal appropriations process. In our June 2000 report to the Congress, MedPAC considered alternate methods to fund HCFA's survey and certification activities, such as direct funding through the Medicare trust funds and user fees from entities seeking Medicare certification. The Commission concluded that the appropriations process is the most straightforward way to assure greater survey frequency. Switching the funding method for these responsibilities merely avoids addressing previous inadequate funding levels.

Finally, although current funding levels are problematic, MedPAC is also concerned about the underlying substance of the standards and the process for applying those standards. Specifically, in our June 2000 report, the Commission identified problems with and made recommendations about the content of current participation standards, the ability of HCFA to enforce compliance, and Medicare's deeming arrangements. ■

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CHAPTER 4

Improving payment for inpatient hospital care in rural areas

RECOMMENDATIONS

4A The Congress should require that rural referral centers' wages exceed the average wage in their area to qualify for geographic reclassification, but these facilities should retain their waiver from the proximity rule.

***YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3**

4B The Congress should require the Secretary to develop a graduated adjustment to the rates used in the inpatient prospective payment system for hospitals with low overall volumes of discharges. This adjustment should only apply to hospitals that are more than a specified number of miles from another facility providing inpatient care, with appropriate exceptions for topography or weather conditions.

YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3

4C In fiscal year 2002, the Secretary should implement fully the policy of excluding from the hospital wage index salaries and hours for teaching physicians, residents, and certified registered nurse anesthetists.

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

4D To ensure accurate input-price adjustments in Medicare's prospective payment systems, the Secretary should reevaluate current assumptions about the proportions of providers' costs that reflect resources purchased in local and national markets.

YES: 13 • NO: 0 • NOT VOTING: 1 • ABSENT: 2

4E The Congress should raise the cap on the disproportionate share add-on a rural hospital can receive from 5.25 percent to 10 percent.

YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3

4F The Congress should revise the target cap for inpatient psychiatric facilities in a way that better addresses differences among them.

YES: 9 • NO: 0 • NOT VOTING: 0 • ABSENT: 7

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 4

Improving payment for inpatient hospital care in rural areas

In this chapter

- A framework for considering rural payment provisions
- Financial performance of rural hospitals
- Policy options that do not target payments to specific cost factors
- Specific problems and solution options
- Inpatient psychiatric care

Rural hospitals have had lower Medicare inpatient margins than urban hospitals throughout the 1990s, and the gap has been widening. Less than a percentage point separated the margins of the two groups in 1992, but the disparity grew to 10 percentage points by 1999. This pattern also applies across all major lines of Medicare business, with rural hospitals' overall Medicare margin dipping below zero. This growing imbalance in Medicare financial performance has occurred despite subsidies for rural hospitals that are almost as high as those for urban hospitals. Although some of the difference in performance may be within hospitals' control, the size of the gap suggests that the payment system does not recognize factors that have a greater effect on the costs of rural hospitals than they do on urban hospitals. In this chapter, we identify several problems in Medicare's payment systems for inpatient hospital care that tend to work against rural hospitals and recommend ways to match payments better to efficient provider costs while improving the financial condition of many rural hospitals.

In response to the deteriorating financial performance of many rural hospitals under Medicare, as well as the large losses on Medicare patients experienced by rural hospitals that operate psychiatric units, the Congress has asked the Medicare Payment Advisory Commission (MedPAC) to:

- review the adequacy and appropriateness of Medicare's current payment policies for rural hospitals,
- analyze how the unit costs of rural hospitals with psychiatric units vary by the volume of services these hospitals provide, and
- analyze the effect of low patient volume on the financial status of isolated rural providers.

This chapter responds to these congressional mandates through a comprehensive review of Medicare payment policy for inpatient services in rural areas.[1] We begin by discussing a framework for analyzing payments for inpatient hospital services. Next, we examine the financial performance of rural and urban hospitals and compare the value of Medicare's current special payment provisions for rural hospitals with that of provisions targeted primarily at urban hospitals. The remainder of the chapter addresses four payment system problems that rural hospitals face, options the Commission considered for solving each, and several recommendations.

A framework for considering rural payment provisions

A variety of factors contributes to the difference in Medicare financial performance between rural and urban hospitals and to rural hospitals' negative margins across all lines of Medicare business. We believe Medicare's inpatient payment system has four problems that may inhibit the best possible distribution of payments and that together play a substantial role in rural hospitals' lower margins. We also believe that improvements in the payment system to solve these problems are feasible—some immediately and some in the longer run. The four are:

- failure to account directly for small scale of operation,
- failure to account for longer lengths of stay, that may result from limited access to post-acute or follow-up ambulatory care services,
- limitations in the measurement of input prices (Medicare's wage index system), and
- unequal disproportionate share (DSH) payments.

The first three issues concern systematic differences between urban and rural hospitals' per unit costs arising from factors that generally are beyond their control. The fourth issue involves differences among hospitals in the volume of services they provide to low-income patients, with treating poor patients generally reducing hospitals' revenue rather than raising their costs. In each case, Medicare's payment system either does not address the underlying differences or appears to address them in a way that works against rural hospitals. We believe these four problems not only help explain the difference in financial status between rural and urban hospitals, but also explain why this difference has widened over the last decade.

In the broadest terms, our options for improving Medicare's payments to rural hospitals are:

- expand cost-based (or even cost-plus) payment to more hospitals, or
- make the prospective payment system (PPS) more responsive to the circumstances of rural hospitals.

Cost-based payment would make up for any inaccuracies in the payment system, but it would offer no incentive for providers to operate efficiently—a key goal of Medicare's payment policy.[2] In addition, cost-based payment would not allow hospitals to earn a margin to help fund capital development or offset uncompensated care.[3] A cost-plus policy would limit that problem, but would exacerbate the lack of cost control.

In contrast, prospective payment gives hospitals an incentive to control costs, but the need to group patients in a PPS means that a tolerable amount of variation in costs among cases within each group can be achieved only with a significant volume of patients.[4]

In considering refinements to the PPS, we again have two broad options:

- rely on programs that provide extra payments to groups of rural hospitals without targeting payments to specific cost-influencing factors, or
- develop payment adjustments that attempt to target payments more accurately at the hospital-specific level.

For hospitals covered by the inpatient PPS, this chapter addresses 20 different policy options (Table 4-1). Some are mutually exclusive, but many could be

1 The Congress did not restrict the last of these studies—analysis of the effects of low volume on financial status—to hospital inpatient services. Chapter 5 discusses the relationship of volume and per unit costs for hospital outpatient services.

2 We do not have a reliable way to quantify the efficient costs of providing services to Medicare patients, but the concept is still useful in guiding our assessment of payment policy. Measuring the average costs of broad groups of hospitals while standardizing for differences in case mix and other cost-influencing factors can provide useful input, however, and we use this approach throughout the chapter.

3 Although cost-based payment reimburses a hospital over time for its past capital expenditures, such payment does not adequately cover the effects of inflation or technological advancement on the costs of plant and equipment. The only uncompensated care expenses a cost-based payment system would cover are Medicare co-payments and deductibles that beneficiaries fail to pay.

4 Variation in costs among patients in a fixed-price system increases hospitals' financial risk.

employed simultaneously. We considered each option because it relies on an existing Medicare program, has been proposed by a leading industry group, or showed promise in addressing one of the four problem areas identified above. For psychiatric facilities, we have considered several options for reforming Medicare's per discharge payment limits, which currently treat facilities in either urban or rural areas and facilities that are either free-standing or hospital-based as if they provided the same types of care and faced the same operating constraints.

Medicare has six payment provisions designed to protect access to inpatient care for Medicare beneficiaries in rural communities by providing extra payments to their hospitals. Some of these policies have been extended on a limited basis to urban hospitals as well (see box, page 58). Four programs—rural referral, sole community, small rural Medicare-dependent, and critical access—can be characterized as offering favorable payment methods to defined groups of rural hospitals based on criteria that do not relate to specific cost factors that are beyond hospitals' control. The sole community hospital program, for example, requires only that hospitals be isolated as evidence of their critical role in maintaining access to care. Although isolated hospitals are perhaps more likely than others to suffer from problems such as small scale of operation, isolation itself does not have a systematic effect on unit costs.

Medicare's goal of matching payments to efficient providers' unit costs is best met by accounting directly in the payment system for factors that are generally outside management control and that have substantial and systematic cost effects. In assessing rural hospitals' needs, therefore, we will first attempt to develop targeted payment adjustments that reflect the most important cost-determining factors, or, where feasible, to improve the accuracy of existing payment adjustments. Often this will affect payments to all hospitals, not just rural ones.

If successful, this approach may reduce or even eliminate the need for some of our current special payment provisions, and we will review these existing programs to determine whether and under what conditions they might be phased out. If the approach ultimately proves infeasible, however, it may be necessary to consider options, including cost-based or cost-plus payment for select facilities, a blend of cost-based and prospective payment, or various types of subsidies or grant programs. At this point, we still believe that the Congress and the Health Care Financing Administration (HCFA) can modify the inpatient PPS to meet the needs of most rural hospitals, and we are not likely to know whether additional alternatives are needed until a number of system changes are implemented and their impacts evaluated.

We must consider all of these policy options in a broader context. Acute inpatient care is only one of numerous services a hospital may provide. Inpatient

TABLE 4-1

Policy options for inpatient hospital care covered by the Medicare prospective payment system in rural areas

Options that do not target payments to specific cost factors

- Maintain rural referral center program
- Maintain sole community hospital program
- Maintain small rural Medicare-dependent hospital program
- Maintain critical access hospital program
- Raise the rural base payment rate

Options that address specific problems in the payment system

Problem: Small scale of operation

- Implement a low-volume adjustment
- Add an access-related eligibility standard to the low-volume adjustment

Problem: Longer lengths of stay, possibly resulting from limited access to post-acute care services

- Extend expanded transfer policy to all diagnosis related groups and return savings to base payments
- Apply the skilled nursing facility prospective payment system to swing beds
- Extend the expanded transfer policy to swing beds

Problem: Limitations in input price adjustment—
relating to occupational mix in the wage index

- Adjust for occupational mix (future)
- Implement a wage index floor
- Compress wage index values toward the mean
- Speed up the phase-out of teaching physician data

relating to labor markets used for the index wage

- Redefine labor markets (future)
- Continue to rely on geographic reclassification

relating to the labor share to which the wage index is applied

- Reduce the labor share
- Use hospital-specific labor shares

Problem: Unequal disproportionate share payments

- Use a broader definition of low-income share and consistent distribution formula (future)
- Raise the cap on disproportionate share payments

Source: MedPAC.

Medicare's current special payment provisions

Over the years, the Congress has enacted a variety of policies that provide special payments to certain types of rural hospitals. These policies are intended to support rural hospitals that are important or solitary sources of medical services for Medicare beneficiaries. Medicare has designated four groups of hospitals to receive special Medicare payments—rural referral, sole community, small rural Medicare-dependent, and critical access hospitals. The program also has developed two other focused payment policies for rural hospitals: geographic reclassification and swing beds (though reclassification is not limited to rural hospitals). This section describes each program, the criteria to qualify, and the special payments provided to qualified hospitals. More information about each program is available in Appendix B.

Geographically reclassified hospitals

Geographic reclassification allows a hospital to be paid under the wage index, base rate, or both of another area. Both urban and rural hospitals may be reclassified. Hospitals apply separately to receive another area's wage index or to receive the base rate for large urban areas, which is 1.6 percent higher than the rate for other urban and rural areas.[a]

To qualify, a hospital must demonstrate that its area wage index and/or base payment rate does not adequately address the input costs it faces, and it must prove proximity and similarity to the area of reclassification. Proximity may be based on distance or employment patterns. Separate similarity tests apply to reclassification for wage index and base payment rate, but the hospital must seek reclassification to the same area for both. For wage index reclassification, a rural hospital's wages must be more than 106 percent of the average for its own area and at least 82 percent of the average in the area to which it seeks reassignment. For base rate reclassification, a hospital must demonstrate that its costs are closer to the amount it would be paid if it were reclassified than to the amount under its current classification.

Rural referral centers

The rural referral center (RRC) program was established to support high-volume rural hospitals that treat a large number of complicated cases and function as regional or national referral centers. In the first year of the program, only rural hospitals with 500 or more beds received special treatment as referral centers. Congress subsequently liberalized the definition, requiring that rural hospitals either have 275 or more beds available for use, or meet other criteria relating to discharge volume, case mix, specialty composition of medical staff, source of inpatients, and referral volume.

When the inpatient prospective payment system (PPS) maintained separate rates for urban and rural areas, RRCs were paid the urban base payment rate. Today, rural areas and urban areas of fewer than 1 million people have the same base payment rate, so RRCs generally receive the same base payment as any other rural facility. However, they still receive preferential treatment in two ways. First, RRCs must meet less stringent standards for geographic reclassification to another wage index area; they do not have to meet the proximity criteria, nor must they show that their average wage exceeds 106 percent of their actual area's average. Second, RRCs may receive higher disproportionate share (DSH) payments than small urban and most other rural hospitals receive (although their formula is still less advantageous than that available to large urban hospitals). Before the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA), RRCs also could qualify more easily for DSH payments than other rural hospitals because of a marginally lower eligibility requirement.

Sole community hospitals

The sole community hospital (SCH) program was created to maintain access to needed health services for beneficiaries in isolated communities. The SCH program provides higher payments to hospitals that are geographically isolated—and thus are believed to play a critical role in providing access to acute care—and that had above-average costs in a base year for the mix of patients they served. To qualify as an SCH, a hospital must be 35 road miles from the nearest similar hospital, or meet other criteria designed to establish that it is a community's sole source of care.

SCHs receive the higher of a per-case payment based on their inpatient costs per discharge updated from 1982, 1987, or 1996 or PPS payment with more liberal access to DSH payments.[b] A hospital's base year costs per discharge are updated to the current year by the PPS operating update factor and adjusted to reflect its current case-mix index (CMI). If the SCH receives the PPS rate and qualifies for a DSH adjustment, the adjustment is up to 10 percent rather than the maximum of 5.25 percent received by most other rural hospitals. Further, SCHs are not required to meet the proximity requirement of geographic reclassification.

(continued next page)

a A large urban area has a population of more than 1 million.

b The option for a 1996 base year was added by the Balanced Budget Refinement Act of 1999 and went into effect for fiscal year 2001.

Medicare's current special payment provisions

(continued from prior page)

Small rural Medicare-dependent hospitals

The small rural Medicare-dependent hospital (MDH) program was created to provide financial protection to hospitals for which Medicare revenue makes up a large share of total revenues. These hospitals were believed to be more vulnerable to inadequate payments under the PPS than otherwise similar rural facilities.

To qualify for MDH designation, a facility must be located in a rural area, have no more than 100 beds, not be classified as a sole community hospital, and have at least 60 percent of inpatient days or discharges attributable to Medicare patients.

Medicare-dependent hospitals are paid similarly to sole community hospitals, receiving the greater of the PPS rate or base year costs from 1982 or 1987 trended forward. MDHs, however, receive half of the difference between PPS and cost-based payments when their trended per case cost is higher, and they do not receive the option of 1996 base-year costs. Also, MDHs do not receive preferential treatment for DSH payments or geographic reclassification.

The MDH designation was originally restricted to hospitals that qualified in 1987, but the BIPA added the option for hospitals to qualify based on an average of two of the last three years of data. However, a Health Care Financing Administration (HCFA) analysis found that all hospitals eligible under the new qualification rules were already designated as MDHs.

Critical access hospitals

The critical access hospital (CAH) program was established by the Balanced Budget Act of 1997 to ensure that beneficiaries in isolated rural communities had access to emergency room and limited inpatient services, including the capacity to stabilize patients and arrange transport to an appropriate larger hospital for complex cases. The program is intended to provide an adequate financial base for facilities in rural areas that cannot support a full-service hospital.[c]

To qualify for CAH designation, a hospital must be located more than 35 miles from the nearest similar hospital and have an average length of stay not exceeding 4 days. A state governor may also designate as a CAH a hospital that does not meet the distance requirement, subject to the Secretary's approval. A CAH must provide 24-hour emergency care services and have no more than 15 acute-care beds and 10 swing beds.

CAHs are paid their current Medicare-allowable costs for inpatient and outpatient services, and the BIPA exempted their swing beds from the skilled nursing facility (SNF) PPS. CAHs that operate distinct-part SNFs or home health agencies, however, are subject to the PPSs for those services. Full cost-based payment provides more protection than the payment approach of the SCH and MDH programs, which limit the rate of growth in per-case payments from a base year. Under the SCH and MDH programs, a facility could receive Medicare payments that do not cover its costs of inpatient services.

Swing beds

A swing bed is a hospital bed that can be used to provide either inpatient or post-acute care. The swing bed program is intended to enhance access to post-acute care in rural communities. It allows rural hospitals to provide SNF services to Medicare patients and other long-term care services to Medicaid patients.

To qualify as a swing-bed provider, a rural hospital must have fewer than 100 beds. If required by the state, the hospital must have been granted a certificate of need for the provision of long-term care services.

Hospitals with swing beds are paid the average Medicare rate per patient day for routine services provided in freestanding SNFs in their census region. Ancillary services are reimbursed on a reasonable cost basis, with costs determined in a manner comparable to that of all other ancillary services provided by the hospital. HCFA has proposed applying the SNF PPS to swing beds in October 2001—three years after the system's implementation. ■

c The CAH program replaced the essential access community hospital, rural primary care hospital, and Montana medical assistance facilities programs, which had similar features.

care commands a smaller share of resources in rural than in urban hospitals, and coordination of inpatient services with ambulatory, post-acute, and long-term care is critically important. In addition, many of the problems we discuss for inpatient services (small scale of operation in particular) may also apply to the other services that rural hospitals typically furnish; consequently, some of the potential solutions may have wider applicability.

We must also recognize that isolated rural communities face travel and resource constraints. Health care must be delivered locally, and some rural markets cannot realistically generate the demand or attract the human and capital resources needed to

operate a hospital—particularly one that furnishes acute medical and surgical services. This problem is no different for a hospital than it would be for a community college or shopping center, and Medicare should not be the vehicle for funding community development. Rather, Medicare should pay for the efficient costs of providing services to Medicare beneficiaries, recognizing that such costs may be higher (measured either per capita or per unit of service) in communities that are small but still capable of supporting facility-based health services.

Financial performance of rural hospitals

Medicare is the largest purchaser of health services from hospitals and plays a larger role for rural hospitals than for those in urban areas. Although rural hospitals tend to fare poorly under Medicare relative to their urban counterparts, their total margins—which incorporate all sources of revenue—have been consistently higher. To provide context for the policy options explored in the chapter, this section compares cost trends, Medicare margins and total margins of rural hospitals with those of urban facilities. The section also examines the special payments provided under Medicare to certain rural hospitals and compares their value with that of the special payments that tend to benefit urban hospitals.[5]

Financial performance under Medicare

The Medicare inpatient margin is lower for rural hospitals than urban hospitals due to lower payments and relatively higher cost growth.[6] Differences in payment levels have been relatively constant over time; most DSH and indirect medical education (IME) payments go to urban hospitals and contribute substantially to their higher margins. But the cumulative change in costs per case between 1990 and 1999 was over 15 percentage points higher for rural hospitals than for urban ones; this has caused the gap in the inpatient margin to grow steadily, to nearly 10 percentage points (Table 4-2). The current difference in inpatient margins between rural and urban hospitals appears to be due as much to higher rates of cost growth for rural hospitals as to inherent differences in payment policy.

Much of rural hospitals' higher growth in costs per case appears to have been caused by smaller reductions in length of stay. Since 1989, urban hospitals' length of stay declined 34 percent, compared with 25 percent for rural facilities. Although additional analysis is needed, the larger drop for urban hospitals may be due largely to better access to providers of post-acute and follow-up ambulatory care in their service areas. Higher cost growth in rural areas may also reflect a lack of hospital competition and low levels of managed care penetration.

The aggregate percent increase in payments resulting from additional payments to hospitals in Medicare's special rural programs, as well as from geographic reclassification, DSH payments, and IME payments, is fairly close for urban and rural hospitals (Table 4-3). This has occurred despite the vast disparity in terms of actual dollar outlays through these payment provisions to urban and rural hospitals. Changes in DSH payment policy under the Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) will bring the total impact of special payment provisions for rural hospitals (9.7 percent) close to that for urban hospitals (11.5 percent).

TABLE 4-2 **Hospital financial performance, by urban and rural location, 1999**

Hospital group	Medicare inpatient margin	Overall Medicare margin	Total margin
Urban	13.5%	6.9%	2.9%
Rural	4.1	−2.9	4.7

Note: 1999 data are preliminary; the inpatient and total (all sources of revenue) margins are based on two-thirds of hospitals covered by prospective payment, while the overall Medicare margin is based on one-half of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

Similar to the inpatient margin, the overall Medicare margin is lower for rural hospitals than urban hospitals, and the gap has widened each year from 1996 through 1999.[7] In 1998 and 1999 this margin was negative for rural hospitals and the disparity between urban and rural hospitals reached 10 percentage points. This is due to lower inpatient margins as well as relatively higher shares of outpatient and post-acute care, which have the lowest payments relative to costs.

Financial performance for all sources of revenue

Total margins for the hospital industry as a whole fell substantially in the late 1990s, but rural hospitals' total margins have not declined as much as those of urban hospitals.[8] Reduced margins were due to slower growth in Medicare payments, continued pressure from managed care organizations and other private payers, losses from alternate lines of service and divestiture of these ventures, and a return in 1998 and 1999 to cost increases after an

5 For a more detailed comparative analysis of financial performance, see Appendix C, which includes financial analyses for groups of rural hospitals over the last decade as well as a full accounting of the value of Medicare's special payments for rural and urban hospitals.

6 The inpatient margin is calculated (in percentage terms) as the difference between inpatient payments and Medicare-allowable inpatient costs (as derived from the cost report each hospital submits to HCFA) divided by inpatient payments. The same general approach is used for the overall Medicare margin and the total margin.

7 The overall Medicare margin measures Medicare's payments and associated costs for graduate medical education activities plus Medicare's five largest hospital services—inpatient care covered by the PPS, inpatient rehabilitation and psychiatric units, outpatient departments, hospital-based home health agencies, and hospital-based skilled nursing facilities.

8 The total margin reflects all patient care services—those covered by all payers and uncompensated care—plus non-patient sources of revenue.

TABLE 4-3

Total value of Medicare special payment provisions for urban and rural hospitals, 2000

	Additional payments	
	Amount (billions)	Percent
Under previous policy		
Urban hospitals	$7.2	11.4%
Rural hospitals	0.8	8.0
With legislated increase in disproportionate share payments under the BIPA		
Urban hospitals		11.5
Rural hospitals		9.7

Note: BIPA (Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000). Additional payments refers to the difference between what hospitals received under prospective payment and what they would have received without special payment provisions. The BIPA lowered the disproportionate share (DSH) eligibility threshold and raised the DSH adjustment rate for rural hospitals and urban hospitals with fewer than 100 beds.

Source: MedPAC analysis of data from HCFA.

era of very low or negative cost growth. Private-sector pressure and business losses occurred most frequently for urban hospitals, allowing rural hospitals to fare relatively better during this period.

Rural hospitals' total margins are higher because their payments from private payers exceed associated costs by far more than those of urban hospitals. These above-cost payments—more than 34 percent higher than costs throughout the 1990s—continue to offset lower Medicare and Medicaid margins despite rural hospitals having a smaller proportion of private-sector business and higher cost growth in recent years. Private-payer payments to urban hospitals, in contrast, have fallen from 132 percent of costs in 1995 to 114 percent in 1999.[9] Private-payer payments are higher in many rural areas primarily because of limited hospital competition and low levels of managed care penetration.

A hospital survey jointly sponsored by HCFA and MedPAC has found that the total margin for all hospitals improved to 4.7 percent in fiscal year 2000, from 3.2 percent for 1999. A key factor in this improvement appears to be better negotiation with managed care organizations and fewer one-time losses from leaving alternate lines of business—neither of which are applicable to most rural hospitals. Thus, the increase in 2000—along with the drop in 1999—appear to be primarily urban hospital phenomena, and we expect that in 2000 the gap in total margin between urban and rural hospitals will close somewhat.[10]

Financial performance by degree of ruralness

Hospitals located in the most isolated rural areas tend to have substantially higher Medicare inpatient margins than other rural hospitals, and fewer have negative margins (Table 4-4). This suggests that the special payment programs that target isolated hospitals have—on average—had a positive effect. The overall Medicare margin is also higher for the most isolated rural hospitals relative to other rural hospitals.

Although large urban hospitals and the most isolated rural hospitals have the highest Medicare inpatient margins, they have the lowest total margins. Efforts to increase Medicare payments to hospitals in these areas may have had a favorable impact, but they may not be enough to make up for other market pressures. Large urban hospitals face the most financial pressure from uncompensated care and managed care, while isolated rural hospitals face pressures from low patient volume and difficulty in attracting skilled workers. These pressures underscore the conclusion that the problems of these hospitals extend to factors beyond Medicare.

TABLE 4-4

Hospital financial performance, by urban and rural location, 1999

Hospital location (UIC)	Medicare inpatient margin	Overall Medicare margin	Total margin
Urban, in an MSA (1,2)	13.5%	6.9%	2.9%
Rural			
Adjacent to an MSA and includes a town with at least 10,000 people (3,5)	3.1	−3.2	4.5
Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)	6.0	−2.2	3.9
Not adjacent to an MSA but includes a town with at least 2,500 people (7,8)	4.5	−2.7	5.3
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	8.4	−0.1	−0.4

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture). MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget). Data are preliminary; the inpatient and total (all sources of revenue) margins are based on two-thirds of hospitals covered by prospective payment, while the overall Medicare margin is based on one-half of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

9 Findings based on MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

10 The effect of stock market losses on non-operating revenue could mitigate these gains. However, the margins data cited reflect hospitals' experience through September 2000, a period in which substantial equity losses had already occurred.

Policy options that do not target payments to specific cost factors

Medicare's rural referral, sole community, small rural Medicare-dependent, and critical access hospital policies attempt to address perceived financial hardship of rural hospitals by providing financial assistance to a group of hospitals without targeting to a specific cost-increasing factor that is beyond hospitals' control. One proposal for providing further assistance to rural hospitals—raising the rural base payment rate—also uses this approach.

Current special payment policies

Rural hospitals in special payment groups tend to have relatively higher inpatient and overall Medicare margins, which suggests that these policies have been successful in raising payments for qualifying hospitals. However, this does not mean that the policies have targeted special payments to the correct hospitals; they may have included hospitals that do not merit special payments or missed hospitals that should receive them.

This section addresses the intent of the current policies and how well they address Medicare's overarching goals of preserving access to care for beneficiaries and paying the efficient costs of providing care. The critical access hospital (CAH) program appears to play an important role in preserving access to care and should definitely be maintained. Funds expended for the other three programs—rural referral, sole community and small rural Medicare-dependent—might in the long run be better spent on payment adjustments that target assistance to factors that systematically increase the costs or reduce the revenue of many rural hospitals, as well as some urban facilities. All existing programs must be maintained in the short run, however, until new payment policies have been implemented and their effects evaluated.

Rural referral centers

The rural referral center (RRC) program was intended to support high-volume rural hospitals that treat complicated cases and function as regional or national referral centers. Because RRCs treat more complex cases, it was presumed they would compete with urban hospitals for skilled staff, making their compensation costs more like those of urban than rural hospitals.

Many of the current RRCs do not reflect the original intent of the policy. Some are classified as RRCs when they no longer are located in a rural area, do not meet the bed size requirement, or no longer meet criteria relating to case mix, discharge volume, staffing, or referrals. Although RRCs might have higher costs attributable to treating more severely ill patients, these costs are accounted for by the payment system. The same holds true for costs associated with teaching activities and higher wages. After taking these factors into account, we found that these hospitals' costs are not above average.

RRCs follow more lenient geographic reclassification criteria than other hospitals. Although their wages must be at least 82 percent of those in the area to which they seek assignment, they need not be located within 35 miles of that area nor have wages at least 106 percent of those in their own area. Consequently, 80 percent of RRCs are reclassified, compared with 13 percent of other rural hospitals.

Geographic reclassification appears necessary in the short run to compensate for the large rural labor areas Medicare uses for application of the hospital wage index.[11] However, the exception from the wage rate criteria granted to RRCs appears overly broad. If these hospitals employ a more expensive staff mix and pay higher wages than other rural hospitals in their states, their average wage rate should exceed the 106 percent threshold required for reclassification. In such a case, a waiver from the rule would not be necessary; otherwise, this benefit may not be appropriate.

In fiscal year 2000, half of the 177 RRCs reclassified to a new area had wages that were not above 106 percent of the statewide rural average; therefore, these hospitals qualified for reclassification solely because of their RRC status. Of those reclassified, nearly one-quarter had wages below the statewide rural average, and thus were already receiving favorable payments relative to their labor costs.

RECOMMENDATION 4A

The Congress should require that rural referral centers' wages exceed the average wage in their area to qualify for geographic reclassification, but these facilities should retain their waiver from the proximity rule.

RRCs should maintain their waiver from the 35-mile proximity rule at least until labor markets are redefined and the wage index is adjusted for differences in occupational mix. RRCs are frequently located close enough (although not necessarily within 35 miles) to one or more urban areas that, given their specialized services, they might be expected to compete with hospitals in those areas for skilled personnel.

Sole community hospitals

The sole community hospital (SCH) program has probably helped to preserve access to care in isolated and sparsely populated communities by targeting hospitals that have higher-than-average costs given their circumstances. Our analysis documented these higher costs after accounting for other factors that could affect costs, such as low volume, case mix, and teaching activity. The higher costs of SCHs could be due to factors other than scale, such as longer lengths of stay linked to an inability to place patients into appropriate post-acute care.

The SCH program, however, has two distinct disadvantages. First, payments based on hospital-specific costs do not necessarily align payments to the efficient cost of production. A hospital's base-year costs may have been relatively high given its volume and case mix at the time,

11 This issue is discussed in greater detail later in the chapter.

reflecting inefficiency. In addition, although adjusted for current-year case mix, base-year costs do not relate a hospital's payment rate to its current volume, which has a strong relationship with underlying costs. A hospital's base rate for SCH payment reflects its volume in the base year, but volume may have increased—or more likely dropped—significantly since then. In the Balanced Budget Refinement Act of 1999 (BBRA), the Congress allowed for more current base-year costs by adding a 1996 base-year option to the 1982 and 1987 options previously in law, but this will quickly become outdated as well.

Second, SCH policy is not linked to any specific cost-raising factor and therefore may not target the correct facilities. Some relatively isolated hospitals are not SCHs because the distance criterion (35 miles to the nearest similar facility) is rather strict. Conversely, not all isolated hospitals have low volume or other factors outside their control, and PPS payments may be appropriate for these facilities. Finally, not all SCHs are isolated; only 13 percent of SCHs would meet even a liberalized standard of 25 road miles from the nearest PPS hospital or CAH.[12]

A set of PPS payment adjustments might raise the payments of isolated rural hospitals enough that few would continue to benefit from a base payment trended forward. However, we believe it will be necessary to maintain the SCH program until a new set of more targeted payment adjustments is implemented and their impact is known. Then the Congress and HCFA could consider phasing out this program if it appears to have become redundant or only benefits facilities that do not merit special payments. At that point, continued extra payments to SCHs might result from cost inefficiencies implicitly supported by cost-based payments, but could also be due to other legitimate cost-raising factors. It will likely take several years for all the necessary policy changes to be fully implemented, so the program should at the least be kept in place on an interim basis, and the need to maintain it permanently cannot be ruled out.

Small rural Medicare-dependent hospitals

The small rural Medicare-dependent hospital (MDH) program is intended to provide financial protection to hospitals whose relatively large share of Medicare patients may make them vulnerable to inadequate payments under the PPS. The MDH program probably has done less to preserve access to care than the SCH program has; we have found that MDHs have lower-than-average costs (after taking into account other factors reflected in the payment system) and the highest inpatient margins of all rural hospital groups.

Like the SCH program, the MDH program does not necessarily align payments with efficient costs and qualification is not linked to any specific cost-raising factor. It appears that the principal argument in favor of the MDH program concerns the extra vulnerability to Medicare payment policy of hospitals with a greater dependence on Medicare. This is not an insignificant consideration, but we would prefer to develop a system that recognizes the unique characteristics and problems of rural hospitals so that dependence on Medicare is not a factor.

As with the SCH program, the MDH program should be reviewed after targeted payment adjustments are implemented and their impact is known. If the MDH program becomes redundant or only benefits facilities that do not merit special payments, it could be phased out.

Critical access hospitals

The CAH program is designed to provide an adequate financial base for facilities located in isolated rural areas that cannot support a full-service hospital. The program has played a valuable role in maintaining access to care for Medicare beneficiaries, and appears to have actually improved access to care. Some facilities that closed before the program was implemented have since reopened as CAHs. Further, the cost-based payment used for CAHs is probably appropriate given their very low volume. However, while cost-based payment may be justified in preserving access in resource-challenged communities, it does not promote the efficient production of services and thus should not be relied upon more than necessary.

Growth in the number of CAHs has been substantial over the last year. In April 2001, there were 375 CAHs, compared with 219 in the fall of 2000. CAHs now make up more than 17 percent of all rural hospitals, and this number will almost certainly increase. This rapid growth reflects a number of factors, including continued loss of volume and increased unit costs in many rural hospitals, a BIPA provision clarifying cost-based payment to laboratory services for CAHs, and hospitals' efforts to avoid the effects of the outpatient PPS.

CAHs are heavily concentrated in a small number of states, especially in the Great Plains region. As of March 2001, five states—North Dakota, South Dakota, Nebraska, Kansas, and Oklahoma—had 119 CAHs total; Nebraska alone had 44. Conversely, California, Wyoming, and Mississippi had one each, while Utah, Arizona, and Alabama had none. Texas, with the largest rural land mass of any state besides Alaska and with among the most hospitals of any state, had only nine CAHs.

The rapid increase in the number of CAHs has included some facilities that may fall outside the intent of the program. For example, the liberalized length of stay requirement (from a maximum of four days per admission to an average of four days) may pave the way for some hospitals to qualify for cost-based payment without any change in organization. In addition, some hospitals that do not meet the 35-mile requirement

12 Because CAHs are not considered full-service inpatient providers, HCFA does not count them as a similar facility in determining whether an applicant for the SCH program meets the 35-mile requirement. As such, one hospital becoming a CAH might result in another hospital in the community becoming eligible for the SCH program. This suggests that as the CAH program grows (at a rate of over 65 percent in the last year), so too could the number of SCHs. There are now more than 830 SCHs, 75 more than two years ago, and HCFA reports applications in 2001 that may raise that number further.

have been designated as CAHs by their state governors, although this is done in the context of a comprehensive state plan (required by HCFA) for the delivery of health care in each state's rural areas.

The advantages to a hospital of cost-based payments for inpatient, outpatient, and swing-bed services could be substantial. Very small rural hospitals—including CAHs—provide a relatively greater proportion of outpatient and post-acute services. However, approximately one in three CAHs operate rural health clinics in place of outpatient departments, to take advantage of full cost-based reimbursement over Medicare's former policy of paying discounted costs for outpatient services. These hospitals would still receive the preferential payment for their rural health clinics without CAH status.

Despite the potential benefits, the CAH program can limit a provider. Cost-based payments may not be viable in the long run because a CAH can never achieve a positive margin for Medicare services to help fund uncompensated care or capital development. In effect, the only way a CAH can generate above-cost revenues is by finding ways to allocate more of its overhead or ancillary costs to Medicare on its cost report, behavior that we would not want to encourage.

The requirements to qualify as a CAH can also limit a hospital's ability to offer a range of services. The average length of stay requirement may affect the ability to provide psychiatric and rehabilitation services, which tend to have longer-than-average lengths of stay and would be included in calculation of the facility's average length of stay for CAH qualification. The practical effect is to make such units unlikely for CAHs, possibly reflecting that these services were not viewed as "critical" in the same way that emergency room and basic inpatient services were when the CAH program was established.

By implementing PPS payment adjustments targeted to small and isolated rural hospitals—particularly a low-volume adjustment, as discussed in the next section—we may be able to make PPS rates attractive enough to enable many small hospitals to conclude that they need not apply for CAH status. This would minimize Medicare's exposure to cost-based payment. Under current law, hospitals are not allowed to return to PPS status once they have been designated CAHs, but if targeted payment changes that would affect them are implemented, HCFA should consider (and Congress could require) allowing CAHs to return to PPS.[13]

An adjustment to inpatient payments based on low volume may not work well for many CAHs, in part because volume is inherently unstable at low levels; below a certain number of cases, the adjustment required to ensure an adequate revenue flow over time may be unappealing to Medicare as a purchaser of such services. In addition, the benefit to the hospital of avoiding lower payments from the outpatient PPS may be greater than the value of the inpatient adjustment. For these facilities, removal from the PPS through the CAH program may be the best option.

However, we believe the CAH program should be restricted to its intended purpose—ensuring that beneficiaries in small and isolated rural communities have access to emergency room services and basic inpatient care, including stabilization and transfer of complex cases. Cost-based payment is appropriate for that purpose, but should not be extended to mainstream inpatient services in larger communities. The higher payments afforded by a set of targeted PPS payment changes may be enough to prevent this through incentives, but the Congress and HCFA should also keep growth of the program in check by avoiding further liberalization of the qualification criteria. The bed size, length of stay and distance requirements, while restrictive, help to target facilities that play an important role in maintaining access to care and yet are unable to operate as full-service hospitals.

Raising the rural base payment rate

The inpatient PPS originally had separate base payment rates for urban and rural hospitals, but Congress began phasing out the "rural differential" in the early 1990s. Although the same base payment rate now applies in rural areas and most of the metropolitan statistical areas (MSAs) they share borders with, hospitals in large MSAs (those with more than 1 million people) still have a 1.6 percent higher base rate.

This differential, together with the IME and DSH payments made to teaching hospitals concentrated in large urban areas, has contributed to a sizable gap in Medicare inpatient margins by geographic area. The 1999 margin in large urban areas was 16.2 percent, compared with 9.0 percent in other urban areas and 4.1 percent in rural areas. The pattern for total margins, however, is just the opposite: 2.2 percent for large urban, 4.1 percent for other urban, and 4.7 percent for rural areas.

The split in base payments has created interest in raising the rate shared by rural and other urban areas to the level of the large urban rate, primarily as a method of improving payments to rural facilities. This could be done budget neutrally through differential updates (as Congress did previously in eliminating the rural differential) or with new monies.

Arguments can be offered for and against raising the rural (and other urban) base rate. On the one hand, rural hospitals' costs per discharge remain below those of urban hospitals after controlling for other factors accounted for in the payment system (such as teaching activity and wage levels). On the other hand, hospitals in large urban areas do not have higher costs than those in other urban areas. Thus, implementing a single base payment rate would have a mixed impact in terms of matching payments to underlying treatment costs across broad groups of hospitals. One could argue that there is an advantage to applying a single

13 It is important to remember that a hospital's decision on whether to apply for or retain CAH status would consider outpatient and swing bed payments along with inpatient payments. In addition, safety code issues might prevent some CAHs from returning to the PPS.

base payment rate to all hospitals and then using targeted payment adjustments to account for costs that differ geographically and that are outside the control of hospital managers. With one base rate, the payment system would have one less set of borders.

From a different perspective, raising the rural base payment rate would not necessarily offer the most accurate means of targeting the payment change to significant cost factors affecting rural providers. Later in the chapter, we discuss the option of extending Medicare's expanded transfer policy, which reduces payments for cases with unusually short lengths of stay, from 10 diagnosis related groups (DRGs) to all DRGs and returning the savings to the base payment rates. Thus, we have two options that could raise rural hospitals' base payment rates by similar amounts, but the methods of funding are quite different:

- For eliminating the differential in base payment rates, all hospitals in large urban areas pay for the increase, regardless of underlying costs or financial performance.
- For extending the expanded transfer policy, those hospitals (urban or rural) that have been successful in raising their inpatient margins by reducing length of stay, at least partly through good access to post-acute care services, pay for the increase.

We believe that our recommendations for targeted payment adjustments (discussed in the next section) will make enough progress in improving the accuracy of inpatient payments (to the benefit of many rural hospitals) that implementing a single base payment rate should not be necessary. Equalizing the base rate would have major financial implications, requiring either a large appropriation or an extensive redistribution of payments. If implemented with new monies, the change would raise payments to rural and other urban hospitals by 1.1 percent and 1.3 percent, respectively, and would increase Medicare's expenditures by about $480 million per year. If done budget neutrally, it would raise rural and other urban hospitals' payments by 0.5 percent and 0.7 percent, respectively, but would reduce the payments of large urban hospitals by 0.6 percent.

Specific problems and solution options

This section discusses the four key problems hospitals face with the Medicare inpatient PPS—small scale of operation, the treatment of length of stay, limitations in input price adjustment, and unequal disproportionate share payments—and reviews potential solutions. We recommend implementing a low-volume adjustment, speeding up the phase-out of certain categories of wages from the wage index, investigating whether the labor share used for the wage index should be reduced, and raising the cap on rural hospitals' DSH payments.

Small scale of operation

Making Medicare payments approximate an efficient provider's costs requires accounting for factors beyond providers' control that may affect the costs of furnishing services. Patient volume may be one such factor, particularly in small and isolated communities where some providers cannot achieve the economies of scale and service scope of their larger counterparts and thus have higher per-case costs. The current PPS rates do not directly account for the relationship between cost and volume, potentially placing smaller providers at a financial disadvantage relative to other facilities.[14]

The critical access, sole community, and small rural Medicare-dependent programs benefit many small and isolated hospitals, even though these programs do not directly address the small-scale issue. Eligibility for these programs is not well targeted to low-volume hospitals, however, and payments are based at least partially on hospital-specific costs, which may reflect poor management and other provider inefficiencies. A low-volume adjustment could deal with these issues more directly.

Effects of low volume on costs

To determine whether low-volume hospitals have higher costs than other hospitals, we examined the relationship between total (all-payer) inpatient volume and Medicare costs per discharge.[15] Our analysis shows a statistically significant relationship between discharge volume and costs per case, after controlling for cost-related factors in the payment system.[16] The volume and cost relationship is most pronounced for facilities with fewer than 200 discharges per year (Figure 4-1), which have per-case costs that are more than 20 percent higher than average. The relationship levels off after about 500 discharges.

Low-volume hospitals account for only a small fraction of acute care facilities; 2 percent of hospitals have fewer than 200 discharges and 11 percent have fewer than 500. The vast majority of these facilities, 85 percent, are in rural counties. The question then arises: which facilities are low volume and do other payment programs targeted to rural providers address the low-volume issue in another way?

Relationship to current policy

Hospitals' financial performance under Medicare's inpatient PPS, as well as across all payers, is strongly related to

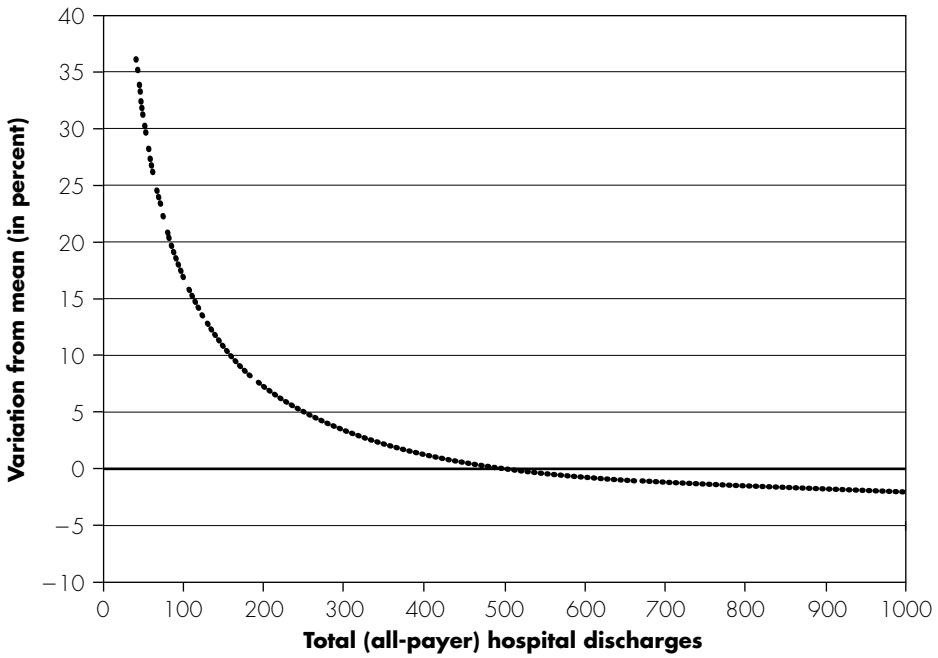
14 The exception is that sole community and small rural Medicare-dependent hospitals with more than a 5 percent drop in total discharges from one period to the next may apply for an adjustment to their payment rates to partially account for the potentially higher patient care costs associated with the drop in patient volume.

15 Although Medicare payments are intended to cover the costs of Medicare patients, a hospital's total volume of service determines its unit costs of production.

16 A statistically significant relationship also was observed when controlling for both payment system factors (such as teaching activity, wage levels, and case mix) and other factors that are thought to affect providers' costs but not used to set payment rates. These include additional measures of hospital outputs (length of stay, outpatient visits, and non-acute patient days), more detailed patient-mix data, provider characteristics, and market attributes.

FIGURE 4-1

Relationship between hospital discharge volume and costs per case, 1997



Source: MedPAC analysis of data from HCFA.

inpatient volume: the Medicare inpatient and total margins both rise as volume increases (Table 4-5). The Medicare inpatient margin is negative for hospitals with 500 or fewer discharges and is –16.4 percent for those with fewer than 200 discharges. This provides a strong indication that the payment system is not responding to the influence of scale on provider payments. It would appear that low-volume providers are disadvantaged by rates based on average volume and that current programs targeted to rural providers are not protecting these facilities, despite the fact that the average margin of hospitals in these programs is above that of other rural hospitals.

Our analysis shows that 64 percent of hospitals with 500 or fewer discharges receive special treatment through one of the three current programs targeted to small rural hospitals—sole community, small rural Medicare-dependent, and critical access (Table 4-6). Given this result, we must ask how well these programs compensate for the additional costs low-volume providers incur, particularly when we see most low-volume providers with poor financial performance.

The MDH program is not effective at identifying low-volume hospitals. Only 15 percent of the hospitals with 500 or fewer discharges are classified as MDHs, and just half of these receive payments based partially on hospital-specific rates trended forward. This result is not surprising, because the qualifying criteria for the MDH program have nothing to do with costs and hospitals do not need high Medicare penetration to suffer from the effects of small scale. In fact, our analysis found that MDHs have lower-than-average costs, after controlling for other cost-influencing variables reflected in the payment system.

For sole community hospitals, the picture is murkier. The program covers 27 percent of hospitals with fewer than 500 discharges, but this limited coverage results from the requirement that hospitals must be more than 35 miles from another facility (although some are closer than this because they were grandfathered into the program or meet other criteria). Because any hospital meeting the 35-mile test will qualify, the SCH program by definition covers all isolated low-volume hospitals. Whether the payments hospitals receive under the program are adequate or appropriate is another issue.

TABLE 4-5

Financial performance of hospitals, by discharge volume, 1999

	Baseline Medicare inpatient		Total	
Total discharge volume	Margin	Percent of hospitals with negative margin	Margin	Percent of hospitals with negative margin
Up to 200	−16.4%	66.7%	−1.6%	64.1%
201 to 500	−2.1	50.2	0.0	49.1
501 to 1,000	4.6	39.0	0.3	45.3
1,001 to 2,500	5.0	37.7	2.4	36.2
2,501 to 5,000	6.5	32.7	2.5	31.1
5,001 to 10,000	10.1	24.0	3.6	31.2
10,001 to 20,000	12.3	19.4	4.0	28.7
More than 20,000	17.4	7.4	2.8	26.4

Note: PPS (prospective payment system). The baseline margin is the actual 1999 margin adjusted to reflect the change in disproportionate share payments enacted by the Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000. Analysis based on data from two-thirds of the hospitals covered by prospective payment in 1999, which includes some that have since been designated critical access hospitals.

Source: MedPAC analysis of data from HCFA.

The critical access hospital program provides assistance to another 22 percent of low-volume hospitals.[17] A large proportion of CAHs, 70 percent, are low volume, in part because these hospitals by definition are small and thus likely to have a low number of discharges.

Overall, 37 percent of low-volume hospitals are not covered by any of the three existing programs; among those that are, a substantial portion does not benefit from hospital-specific payment rates. This leaves a fairly large number of low-volume providers without any special treatment.

Another consideration is whether existing programs target providers that may not need assistance, at least as it relates to low volume. Almost three-quarters of MDHs and SCHs and one-third of CAHs have discharge volumes above the level at which low volume is expected to significantly increase costs.

A final issue concerns the importance of inpatient services to low-volume providers. Revenue from acute-care inpatient services generally makes up a small portion of business; inpatient revenues accounted for less than 40 percent of total revenues in 88 percent of hospitals with fewer than 500 discharges, compared with only 34 percent of higher-volume facilities. Although acute inpatient services do not appear to be a primary focus, this does not necessarily diminish the importance of a low-volume adjustment for these services. Rather, it suggests that attention should be paid to the payment mechanisms Medicare uses for the other services that small and isolated hospitals provide to ensure an adequate overall level of financial performance.

TABLE 4-6

Distribution of low volume hospitals, by hospital type, 1997

Hospital type	Share of all hospitals	Share of hospitals with 500 or fewer discharges	Share of hospitals within group with 500 or fewer discharges
Urban	54%	14%	3%
Rural	46	86	21
Sole community	13	27	23
Medicare dependent	6	15	26
Critical access	4	22	70
Other rural <25 beds	1	7	58
Other rural 25-50 beds	7	15	25
Other rural > 50 beds	15	1	1
Total	100	100	11

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

Access considerations

The issue of a low-volume adjustment is most critical for isolated hospitals, where the facility is important for maintaining beneficiaries' access to care. Such facilities, because of their market circumstances, have little ability to grow and take advantage of economies of scale and scope realized by larger facilities. Adjusting payments for a low-volume facility that is near other facilities, however, is not a priority because beneficiaries' access to care is less likely to be affected.

Low-volume hospitals are more isolated than higher-volume hospitals, but most low-volume hospitals would not meet the 35-mile distance standard used for designating sole community hospitals. Just over half of low-volume hospitals are more than 25 road miles from the nearest hospital, and a relatively small proportion, 14 percent, have a potential competitor within 15 miles.[18]

Low-volume adjustment

Medicare's PPS payment rates do not reflect the higher unit costs of low-volume hospitals, placing these facilities at greater financial risk. Many low-volume facilities are not near another hospital, and therefore may play an important role in maintaining beneficiaries' access to patient care services. A low-volume adjustment with a distance requirement would allow Medicare payment rates to reflect the higher costs of low-volume facilities that are important to patient access. [19]

RECOMMENDATION 4B

The Congress should require the Secretary to develop a graduated adjustment to the rates used in the inpatient prospective payment system for hospitals with low overall volumes of discharges. This adjustment should only apply to hospitals that are more than a specified number of miles from another facility providing inpatient care, with appropriate exceptions for topography or weather conditions.

The Commission believes that a low-volume adjustment would strengthen the current inpatient PPS by aligning payments better with efficient providers' costs. The adjustment should reflect the basic underlying relationship between patient volume and costs per case, avoiding cliffs (points in the formula where a small change in volume would produce a large change in payment) that might provide inappropriate incentives.

17 The number of low-volume hospitals benefitting from the critical access hospital program today is likely larger, as the number of CAHs has risen since we developed the count used in this analysis.

18 A beneficiary-level analysis of how far patients in isolated communities must travel for care would provide a more direct measure of access than the distance from each hospital to the nearest alternative facility. But investigating that approach was infeasible given our time frame for this project.

19 As discussed in Chapter 5, we also intend to consider a low-volume adjustment for Medicare outpatient payments.

To avoid problems with annual volume variation and to encourage stability in the level of the adjustment and provider payment rates over time, the volume adjustment should be set for an individual facility based on a multi-year average volume. The level of the adjustment should be periodically reexamined to reflect improvements made in the inpatient PPS that might affect the measured relationship between volume and cost.[20]

The Medicare program would not necessarily want to reward a low-volume hospital with a payment adjustment if it were close to other facilities; such proximity could be one reason for the low volume. In addition, extremely low volumes may pose a quality-of-care risk, and Medicare would not want to encourage hospitals operating at such levels unless necessary to maintain access to care. Including a distance requirement with a low-volume adjustment would alleviate some of these concerns. Further, as long as a distance criterion is in place, there is no reason to restrict a low-volume adjustment to rural hospitals.

The low-volume adjustment also could be applied to hospitals that are closer than the distance criterion by basing the adjustment on the pooled volume for all facilities falling within the distance limit. If one other hospital were within the distance limit, for example, the size of the low-volume adjustment would be based on the combined patient volume of both facilities. In essence, the low-volume adjustment would be set as if there were only one hospital in the community.

The distance measure used is an important issue. The standard used for sole community hospitals (35 miles) would be fairly restrictive; only about 21 percent of low-volume providers would qualify. But a distance standard set at a lenient level, such as 5 miles, would likely help providers in markets in which it is not clear that the low-volume hospital is essential to Medicare beneficiaries' access to care. A 15- or 20-mile standard might provide a reasonable tradeoff for including facilities that are important for beneficiary access to care while excluding facilities that markets cannot support because of overcapacity.

To illustrate the financial impact of a low-volume adjustment, we simulated an adjustment that increases payments by up to 25 percent and drops to zero for hospitals with more than 500 discharges. This formula, for example, would provide a 20 percent increase in payments for hospitals with 100 discharges and a 10 percent increase for those with 300 discharges.[21]

The low-volume adjustment would not increase Medicare spending much, but could provide payment increases—some substantial—to roughly 10 percent of hospitals. In our illustration, Medicare inpatient payments would increase by $17 million a year with a 15-mile distance standard (or by $22 million without such a standard). For all hospitals with up to 200 discharges, payments would rise by 8 percent with the distance standard (or by 11 percent without), and for those with 201 to 500 discharges, these impacts would be 4 percent and 5 percent, respectively (Table 4-7).

This simulation suggests that a low-volume adjustment could substantially improve the Medicare inpatient margins of many of these facilities, including a number of sole community and Medicare dependent hospitals. About one-quarter of the low-volume hospitals currently paid based on hospital-specific rates under the SCH or MDH programs would benefit from the volume-adjusted PPS over the hospital-specific rate.

A low-volume adjustment probably would enable some CAHs to come back into the Medicare inpatient PPS (if these facilities were allowed to reverse their CAH status), because the adjusted base payment would be more reflective of their underlying cost structure. In addition, many hospitals might decide not to become CAHs if a low-volume adjustment were provided.

Treatment of length of stay

Providers with longer-than-average inpatient stays generally have higher per-case costs. Several factors can increase the average length of an inpatient stay:

- less access to post-acute care,
- a sicker and older patient population,
- local practice patterns, and
- provider inefficiencies.

Our analysis confirms that costs per case tend to rise as length of stay increases. In addition, costs per case decline with increases in the volume of non-acute inpatient days in the facility. This latter relationship may reflect provider substitution of post-acute days for inpatient days, potential economies of scope, or departmental cost shifting from acute inpatient to other settings, but we cannot discriminate among these three factors using currently available data.

Effects of post-acute care availability on costs

Under a fixed per-case payment system, hospitals are rewarded for sending patients to post-acute care earlier in their stays. Providers with post-acute care units discharge patients to these units more often and earlier than hospitals without post-acute services (ProPAC 1996).

A shortage of ambulatory and post-acute care resources may prevent rural hospitals from discharging patients as early in the episode of care as urban hospitals would. Substitution of post-acute services (including skilled nursing, rehabilitation, and home care) for the latter days of inpatient stays was one of the key factors

20 Examples of policy changes that could affect the cost and volume relationship include case-mix refinements (such as all patient refined diagnosis related groups, which the Commission recommended in its March 2000 report) and an occupational mix adjustment to the wage index (discussed later in this chapter).

21 The payment adjustment we simulated produces a multiplier that is applied to the PPS base payment rate for a case, in a manner similar to how the indirect medical education and disproportionate share adjustments are applied. Only hospitals with fewer than 500 discharges would have their payments adjusted. The low-volume adjustment multiplier = [1.25 – (0.0005 × d)] if d < 500; otherwise, the multiplier = 1.0, where d = total inpatient acute care discharges. We assumed that hospitals must be located at least 15 miles from the closest similar hospital to qualify for the low-volume adjustment.

TABLE 4-7

Impact on Medicare inpatient margins of implementing a low-volume adjustment with an access-related eligibility requirement

	Baseline			After policy change	
Hospital group	**Margin**	**Percent of hospitals with negative margin**	**Change in payments**	**Margin**	**Percent of hospitals with negative margin**
All hospitals	12.4%	31.7%	0.0%	12.4%	30.5%
Urban	13.6	25.4	0.0	13.6	25.2
Rural	5.8	38.9	0.1	5.7	36.6
Rural referral	6.0	32.2	0.0	6.0	32.2
Sole community	5.9	32.0	0.1	6.1	31.5
Small rural Medicare-dependent	10.2	30.7	0.3	10.5	28.6
Critical access	−4.2	66.9	2.5	−2.1	53.2
Other rural <50 beds	6.9	38.9	0.3	7.2	36.8
Other rural ≥50 beds	4.0	40.9	0.0	4.1	40.9
Urban					
Low-margin	−7.3	97.3	0.0	−7.3	96.4
Mid-margin	6.5	0.0	0.0	6.5	0.0
High-margin	23.6	0.0	0.0	23.6	0.0
Rural					
Low-margin	−8.3	91.0	0.2	−8.1	85.7
Mid-margin	6.9	0.0	0.1	7.0	0.0
High-margin	22.7	0.0	0.1	22.8	0.0
Total discharge volume:					
Up to 200	−16.4	66.7	8.2	−8.5	57.7
Remaining in PPS	−15.7	58.7	5.1	−10.0	54.3
Moved to CAH	−17.7	80.0	13.2	−5.3	64.0
201 to 500	−2.1	39.0	3.8	1.6	38.4
Remaining in PPS	1.1	40.9	3.0	4.0	34.9
Moved to CAH	−8.9	70.6	5.2	−3.5	45.9
501 to 1,000	4.6	37.7	0.0	4.6	39.0
1,001 to 2,500	5.0	32.7	0.0	5.0	37.8
2,501 to 10,000	9.0	28.2	0.0	9.0	28.2
More than 10,000	14.8	15.9	0.0	14.8	15.9

Note: PPS (prospective payment system). CAH (critical access hospital). Baseline margin is the actual 1999 margin adjusted to reflect the change in disproportionate share payments enacted by the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000. Analysis based on data from two-thirds of the hospitals covered by prospective payment in 1999.

The critical access groups include hospitals that were designated CAHs in 1999 or after, and the results estimate what the baseline margin and impact of the policy change would have been had they remained in the PPS. Those becoming CAHs before filing their 1999 Medicare cost reports were excluded from the analysis due to lack of data.

Low-margin is defined as having a Medicare inpatient margin below zero in 1999, which included 17 percent of urban and 30 percent of rural hospitals. High-margin defined as above 12 percent, which included 27 percent of urban and 21 percent of rural hospitals.

The formula used for this simulation is detailed in footnote 21.

Source: MedPAC analysis of data from HCFA.

behind a 33 percent drop in Medicare's acute care length of stay since 1989. The drop has been greater for urban than for rural hospitals (34 percent compared with 25 percent through 1999), which may have increased rural hospitals' relative unit costs. The smaller decline in length of stay leads us to believe that rural hospitals may have longer absolute lengths of stay, given the mix of cases they receive.

The drop in length of stay has differed sharply by the degree of isolation of rural hospitals (Figure 4-2). The cumulative drop in length of stay since 1990 for hospitals in rural areas with no town of at least 2,500 people, for instance, was 13 percent, compared with 24 percent for hospitals in areas that are not adjacent to an urban area but still include a sizeable town and 33 percent for urban hospitals. This smaller drop appears correlated to the change in costs per case, which has been much higher for the most isolated rural hospitals, and likely reflects the lesser availability of post-acute services in isolated and sparsely populated communities.

Relationship to current policy

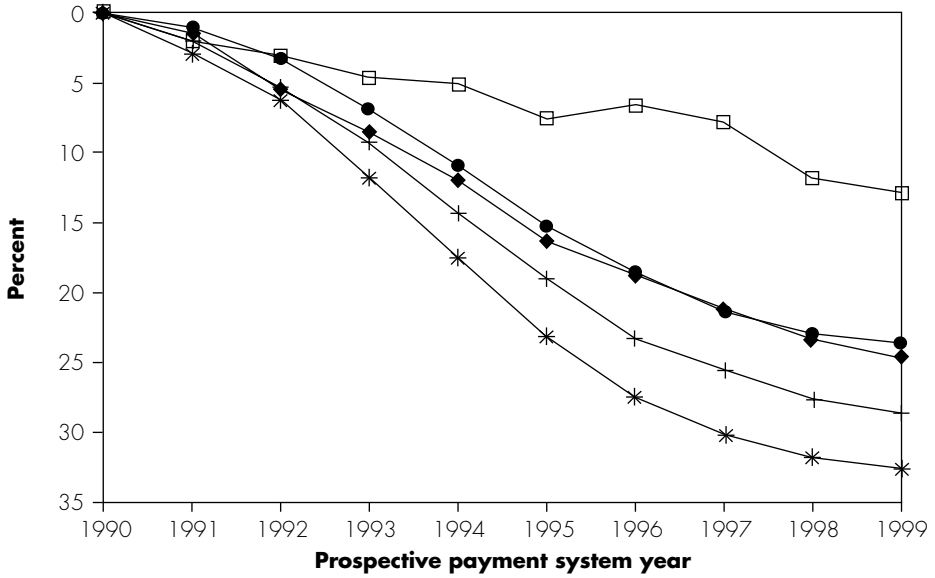
Medicare's transfer payment policy is intended to recognize that when hospitals discharge patients to another provider, they may not provide the full course of care implied by the DRG payment. Transfer cases with shorter-than-average stays, therefore, are counted as partial cases and paid a graduated per diem.

Before the Balanced Budget Act of 1997 (BBA), a case was considered a transfer only if the patient was discharged from one PPS hospital and immediately admitted to another PPS hospital. The BBA expanded the transfer policy to include patients in 10 DRGs who are discharged to PPS-exempt facilities or SNFs, and some cases discharged to home health care.

The decision to transfer a patient to a post-acute care setting should be based on clinical rather than financial considerations, and Medicare's transfer payment policy should lessen the influence of payment policy on clinical decision making (MedPAC 2000a).

FIGURE 4-2

Cumulative change in length of stay, by location of hospital (UIC), 1990–1999



Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture). MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

Source: MedPAC analysis of data from HCFA.

However, because the current transfer policy is limited to 10 DRGs and does not apply to hospitals transferring patients to swing beds, its incentives are not spread over all cases that use post-acute care.

Expanding the transfer policy to cover all DRGs and all post-acute settings—including swing beds—and returning any savings to the base payment rates might provide a more equitable distribution of payments and help payments reflect the market circumstances faced by hospitals without access to post-acute providers. Payments for long-stay cases would increase and payments for short-stay cases transferred to post-acute settings would fall. Hospitals with swing beds also would no longer receive what is essentially a partial double payment for care. If the transfer policy was expanded to all DRGs in a budget-neutral manner, rural hospitals on average would benefit from the higher base payments. Payments likely would fall on average for urban hospitals, which may have easier access to, and hence are more likely to use, post-acute care providers. The Commission will examine the financial impact and other implications of extending the transfer policy to all DRGs in the coming year.

Hospital swing beds

The swing-bed program, established in 1980, allows rural hospitals with fewer than 100 beds to use their beds interchangeably to furnish either acute care or skilled nursing services to Medicare and Medicaid patients. The program is aimed at increasing rural beneficiaries' access to skilled nursing services by providing small hospitals with a way to use their facilities more efficiently than they would in operating a SNF. Roughly two-thirds of rural hospitals have approved swing beds, and about one-quarter of hospitals with swing beds also operate a SNF.

Hospitals that operate swing beds have a financial advantage relative to other hospitals because discharges made to swing beds are not subject to the expanded transfer policy. Hospitals therefore receive the full DRG payment for cases they transfer to swing beds. In addition, discharges to swing beds currently are exempt from the new PPS for SNFs, although HCFA is scheduled to start phasing in the SNF PPS for these providers later this year.

The swing-bed policy allows an empty hospital bed to be used for providing SNF services and an empty SNF bed to be used for providing acute care services. There is limited rationale, however, for exempting these providers from either the expanded transfer policy or the SNF PPS. First, by exempting these providers from the expanded transfer policy, Medicare is paying twice for the days that bridge acute and skilled nursing care: once through the DRG payment rate and again through the swing bed payment for SNF care. Second, patients transferred earlier to a swing bed potentially face higher cost-sharing requirements, because they may use more SNF days and hence reach the 20-day SNF copayment window earlier in their spell of illness. To the extent that small rural hospitals with swing beds face financial difficulty because of their small scale of operation, a low-volume adjustment would be a more equitable policy option than an exception from the expanded transfer policy.

Although HCFA plans to phase in swing-bed hospitals under the SNF PPS later this year, the Commission is concerned about bringing these stays under the PPS, which has substantial problems. Once we are sure that the case-mix system distributes payments appropriately, there would be no reason to continue paying differently for swing-bed SNF care.

Limitations in input price adjustment

Medicare's prospective payment systems for facility services—acute inpatient care, outpatient services, ambulatory surgery, skilled nursing care, and home health services—include input-price adjustments that raise or lower the payment rates to reflect the hourly wages of health care workers in each local market (see the box below).[22] Currently, HCFA uses a single measure of geographic differences in area wage levels—the hospital wage index—for this purpose. The wage index compares the level of hospital hourly wages in each labor market area with the national average hospital hourly wage. Labor market areas are based on groups of counties: metropolitan statistical areas (MSAs)—as defined by the U.S. Office of Management and Budget—for urban labor markets, and statewide rural areas, including all nonmetropolitan counties in each state (those excluded from any MSA) for rural labor markets. HCFA annually calculates the wage index using these labor markets and the most recent data on wages, paid hours of employment, and contract labor spending and hours reported by hospitals on their annual cost reports. The index value for each labor market area is its average hourly wage rate (for all paid hours of hospital employment in the market area) divided by the national average hourly wage.

Only part of providers' payments in each setting is adjusted, depending on the labor share. The labor share is HCFA's estimate of the proportion of facilities' costs consisting of resources (inputs) purchased in the local labor market and thus affected by local wage rates. The labor share in each setting generally includes wages, fringe benefits, and locally purchased labor-intensive inputs, such as building maintenance and repair, landscaping, and legal, accounting, or consulting services.

Rural health care advocates, policymakers, and providers have raised concerns about the geographic adjustment's fairness, arguing that it causes systematic underpayments to rural facilities for services furnished to beneficiaries. This section describes the geographic adjustment's objective, its major problems, and potential solutions.

Purpose of the geographic adjustment

The objective of the geographic adjustment is to make Medicare's payment rates accurately reflect the costs efficient providers would incur in furnishing services to beneficiaries given local market wages. Making accurate adjustments for market wage differences is important for two reasons. First, serious problems could arise for beneficiaries and taxpayers if Medicare's payment rates differ from efficient providers' costs (MedPAC 2001). Second, hospitals' reported wage rates vary substantially among labor market areas (HCFA 2000, Dalton et al. 2000).

Whether and how well the adjustment achieves its objective depends on the accuracy of its components:

- Do the wage data reported by hospitals accurately represent differences in wage levels among markets?
- Do the labor market areas identify homogeneous labor markets?
- Does the share of the base payment rates to which the adjustment is applied reflect accurately the portion of facilities' costs affected by local labor market conditions?

Without a geographic adjustment, the payment rate for each service would be the same nationwide. Consequently, Medicare's payment rates would be too high in labor markets with relatively low wage rates and providers in those markets would face incentives to furnish too many services. Payment rates would be too low in labor markets with relatively high wage rates, giving providers financial incentives to produce too few services, stint on services or inputs (especially labor), or cease participating in Medicare. In addition, health facilities would be unable to compete for labor.

How the wage index affects providers' payment rates

Medicare's payment rates for most facility services are based on a national base payment amount adjusted to reflect local market conditions. The national base amount typically comprises two components: a labor-related amount, which reflects the labor share, and a nonlabor amount. The Health Care Financing Administration calculates the adjusted payment rate for a labor market area by multiplying the national labor-related amount by the wage index for the area to get its wage-adjusted amount, and then adding the nonlabor amount to the wage-adjusted amount. In the acute inpatient hospital prospective payment system, for instance, the national base operating payment amount in fiscal year 2001 is $4,007 (excluding payments for capital costs) for facilities located in rural and other urban areas (small metropolitan statistical areas). Based on a national labor share of 71.1 percent, the labor-related amount is $2,849 and the nonlabor amount (representing 28.9 percent) is $1,158. As measured by the wage index, hospital wage rates in rural New York are 15 percent below the national average. Thus, the local base payment rate for a hospital located in rural New York (wage index 0.85) is $3,580 ([$2,849 × 0.85] + $1,158). For a case assigned to a diagnosis related group with a relative weight of 1.4 (roughly typical for a rural hospital), a hospital in rural New York would receive a total operating payment of $5,012 ($3,580 × 1.4). ■

22 In some instances, payment rates are also adjusted to reflect market differences in the level of nonlabor input prices. For example, portions of the payment rates in the hospital acute inpatient PPS are adjusted to compensate for relatively high nonlabor input prices in Alaska and Hawaii. Other payment systems under development for inpatient rehabilitation care, inpatient psychiatric services, and long-term hospital care also will include input-price adjustments.

The wage adjustment's accuracy is important because it strongly influences payment rates among urban and rural market areas. The hospital wage index ranges from 0.7445 in rural Arkansas to 1.4983 in Oakland, California—25 percent below and 50 percent above the national average, respectively. Given a labor share of 71 percent, hospitals' payment rates for acute inpatient care in Oakland are 35 percent above the national average compared with 18 percent below the national average in rural Arkansas. The wage adjustment has roughly similar effects on payment rates for other facility providers, although the strength of the adjustment varies with the labor share (which ranges from 50 percent for hospital outpatient services to 78 percent for skilled nursing care).

According to conventional wisdom, the wage index is low in rural labor markets and high in urban ones. Wage index values among rural and urban labor markets, however, exhibit wide variability, with substantial overlap (Figure 4-3). Some rural areas have wage indexes above, and some urban areas have indexes well below, the national average.

Problems with the geographic adjustment

MedPAC and others have identified four problems with the adjustment:

- The wage index may be distorted because using aggregate wages and hours in each labor market area inappropriately raises the average hourly wage where hospitals employ a relatively costly mix of labor categories and depresses it where hospitals employ an inexpensive labor mix. This is the so-called occupational-mix problem.
- The market areas often encompass distinct health care labor markets.
- The hospital wage and hour data are four years old before they are used for payment and may not capture recent labor market trends.
- The labor share includes cost components, such as computing services, that may not be locally purchased or affected by local labor market conditions.

These problems may have important consequences for some providers. In response, some observers have suggested limiting the range of the wage index adjustment—or even eliminating it—on the grounds that it misrepresents the labor market conditions that rural hospitals face. Some advocates even argue that providers in low-wage markets really do not have low wages. But this begs the question of why hospitals in these areas annually report low wage rates and attest to their accuracy.

Some rural health care advocates have proposed limiting the range of the adjustment by establishing a floor under the wage index, at 0.9 for instance. Alternatively, the effects of the adjustment could be reduced by compressing the wage index—for example, by raising its values to a fractional power, such as 0.8 or 0.9.[23] These proposals would change the wage index and payments under the inpatient PPS, but in different ways (Table 4-8). A floor would raise the lower end of the wage index distribution so that hospitals (or other facility providers) located in low-wage areas would be paid as if the local wage index were the floor value.[24] A wage index floor set at 0.9, for example, would raise the wage index in 34 of the 47 statewide rural labor markets, thereby increasing PPS payments for 87 percent of all rural hospitals and 89 percent of Medicare discharges from rural providers. A 0.9 floor also would increase

FIGURE 4-3

Distributions of hospital wage index values among urban and rural labor markets in fiscal year 2001

Note: Wage index intervals are deciles of wage index distribution across all labor markets in fiscal year 2001.
Source: MedPAC analysis of HCFA hospital wage index for fiscal year 2001.

23 Applying a fractional power would increase wage index values lower than 1.0 and reduce values above 1.0.

24 Without a change in the law, HCFA would have to offset increases in payments for hospitals in low wage markets by reducing payments to all other hospitals. This would be necessary to meet the current statutory budget neutrality requirement for changes in the wage index.

the wage index in 119 urban labor markets (38 percent), raising PPS payments for 23 percent of all urban hospitals and about the same percentage of discharges from urban facilities.

Compressing the wage index would raise low index values while reducing high ones, thereby changing PPS inpatient payments for virtually all rural and urban providers. The percentage change in the wage index (and payments) would be greatest at the extremes of the distribution and diminish for index values approaching 1.0.

Whether either of these solutions might be appropriate or desirable depends on the overall performance of the current wage index adjustment, including the nature, size, and distribution of its errors among labor market areas. Proposals to implement a floor implicitly assume that the wage index substantially understates the level of market wage rates at the low end and that the errors are disproportionately larger for lower wage index values. Proposals to compress the wage index assume that it understates wage levels at the low end and overstates them at the high end, with the size of the errors increasing disproportionately for index values further from the national average.

In general, we would expect health care facilities' wage rates to vary with the overall wage scale paid by other employers in the same market area, with both reflecting the local cost of living. If the hospital wage index grossly distorted true market wage levels, we would expect it to diverge substantially from an index based on wage rates for all occupations and industries. If the premise behind the floor proposal were true, the divergence would be entirely at the low end; the hospital wage index would be further below average than an overall index in low-wage markets, with the size of the discrepancies diminishing as index values approach the floor value. If the premise behind the compression proposal were correct, the hospital wage index would be lower at the low end and higher at the high end than the overall index.

TABLE 4-8

Percentage change in wage index and prospective payment system payments under selected policies

	Wage index		PPS payments	
Wage index	**Floor**	**Compression**	**Floor**	**Compression**
0.75	20.0%	5.9%	14.2%	4.2%
0.80	12.5	4.6	8.9	3.3
0.85	5.9	3.3	4.2	2.3
0.90	—	2.1	—	1.5
0.99	—	0.2	—	0.1
1.30	—	−5.1	—	−3.6
1.50	—	−7.8	—	−5.5

Note: PPS (prospective payment system). Floor set at wage index value = 0.9. Compression wage index is defined as HCFA wage index raised to the 0.8 power.

Source: MedPAC analysis of HCFA wage index.

To examine these hypotheses, we created an overall wage index using fiscal year 1997 wage data for all occupations and industries by MSAs and statewide rural areas.[25] These data are based on Bureau of Labor Statistics' estimates of employment and wages for workers in all industries covered by state unemployment insurance and unemployment compensation for federal employees.

Consistent with our expectations, the overall wage index and the hospital wage index are positively correlated—the estimated simple correlation (r) is 0.64, which means that they have about 40 percent of their variation in common (Figure 4-4). If both indexes were tracking the same relative wage levels (or local living costs) across labor markets, the paired values would fall on a 45 degree line from the origin. Under the floor hypothesis, the dots should cluster below the 45 degree line for hospital wage index values below the floor, demonstrating that the hospital wage index is understating wage levels at the low end. If the compression hypothesis were true, the dots would cluster below the 45 degree line at the low end and above it at the high end—the index is exaggerating the distribution at both ends—and the vertical distance between the dots and the line should diminish as the hospital wage index approaches 1.0. The hospital wage index, however, has a smaller range, with higher values at the low end and lower values at the high end, than the overall wage index—as indicated by the regression line ($R^2 = 0.4225$). Apparently, the geographic pattern of variation in hospital wage rates is not radically different than that for overall wage rates based on all types of labor.

These results are not consistent with the idea that the hospital wage index somehow exaggerates the variation in market wage levels—the premise of the compression proposal. They are also inconsistent with the idea that the hospital wage index substantially understates market wage levels in relatively low wage markets—the hypothesis underlying the floor proposal.

Another way to evaluate the overall performance of the wage index is to examine its relationship to hospitals' Medicare inpatient margins or payment-to-cost ratios for inpatient services. Other things being equal, if the hospital wage index were distorting market wage levels and PPS payments as suggested by proponents of the floor and compression proposals, hospitals' Medicare inpatient margins would be directly related to the wage indexes in their local labor markets; hospitals in areas with low wage indexes would have low or negative margins, while those located in areas with high

25 These data are posted on the web site for the Bureau of Economic Analysis, Department of Commerce.

wage indexes would have average or high margins. Consistent with other recent findings (Dalton et al. 2000), however, hospitals' Medicare inpatient margins do not appear to be related to their local wage index values (Figure 4-5).

Still, these analyses are not conclusive because Medicare accounts for a high proportion of hospitals' revenues in many rural markets and providers' revenues generally drive spending and costs. Some rural facilities thus could exhibit relatively low wage rates because Medicare's payments are low. This is an unlikely outcome for many providers, however, because most rural hospitals' wage rates are substantially lower than the average in their labor markets (Table 4-9). This result suggests that although some rural hospitals may not be able to pay high wage rates, few face this problem because the wage index is too low. Instead, their financial weakness generally stems from other sources, which may include other limitations in Medicare's payment policies, or larger problems, such as insufficient overall market demand for their services or high levels of uncompensated care.

Occupational mix in the wage index

As discussed in our March 2001 report, the computation and application of the wage index raise concerns about the level of payments to rural hospitals (MedPAC 2001). The current wage index confounds differences in wage rates with differences among areas in the occupational mix of employment. In the early 1990s, staff at the Prospective Payment Assessment Commission (ProPAC) estimated that occupational-mix differences probably change the wage index, on average, by plus or minus 2 percent (Williams, et al. 1990). Eliminating them generally would raise the wage indexes for rural hospitals in all regions except the Northeast. Conversely, wage indexes would fall somewhat for providers located in many urban labor markets. The General Accounting Office is conducting a study using more recent data for California and New York, and the results will be available later this year.

In the BIPA, the Congress required HCFA to implement an occupational-mix adjustment to the wage index. To comply, HCFA will have to revise the Medicare cost reporting forms for hospital reporting periods beginning in fiscal year 2001. Consequently, an occupational-mix adjusted wage index will not be available until October 2004. Thus, at least three years will pass before major improvements in accuracy can be achieved.

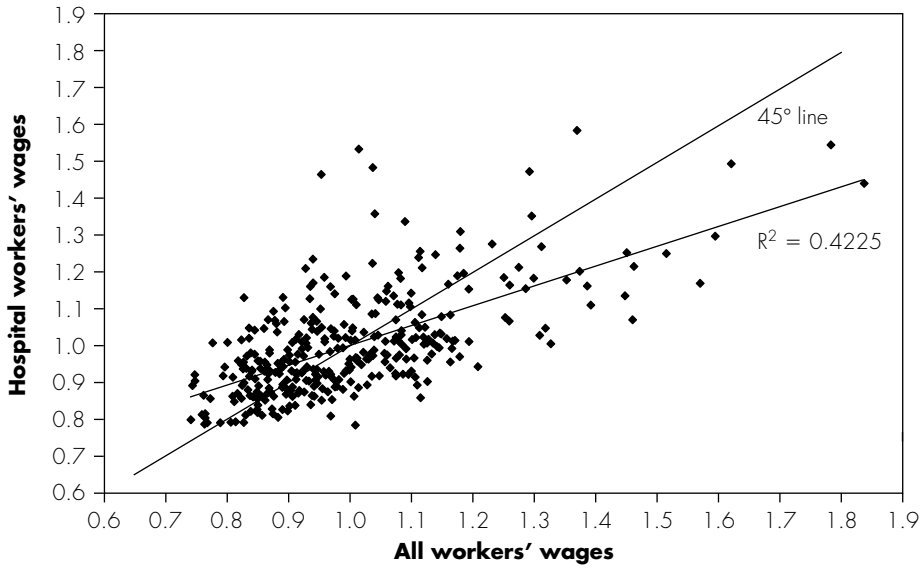
This timeline raises the issue of what interim policies might be adopted to mitigate the effects of the occupational-mix problem. Policymakers might consider three options: establishing a floor, compressing the wage index, or accelerating implementation of the phase-out from the wage index of wages and hours for teaching physicians, residents, and certified registered nurse anesthetists (CRNAs).

As mentioned earlier, imposing a wage index floor would increase facilities' PPS payments in market areas with low hospital wage rates. However, only raising the wage index at the low end would be inconsistent with the anticipated effects of occupational-mix adjustment. Moreover, a wage index floor would substantially over-correct the wage index in areas with the lowest wage indexes, which likely would lead to potentially large payment reductions and resistance to change when direct occupational-mix adjustment becomes possible. Further, benefits from the floor would be arbitrary. For example, if the floor were set at 0.9, hospitals in the Iowa City MSA with a wage index of 0.96 would receive no benefit while those in rural Iowa (at 0.8) would receive a 7 percent increase in payments. Hospitals in markets with wage index values just above the floor—for example, those in Spartanburg-Anderson, SC (0.9003), Hamilton-Middletown, OH (0.9061), or Lewiston-Auburn, ME (0.9036)—would not receive any benefit and likely would argue that the floor should be set higher.

Even if the goal were to help rural hospitals with poor financial performance under Medicare's inpatient PPS, a wage index floor would raise the wage index and PPS payments indiscriminately (Table 4-10). We examined the effect of a floor set at 0.9 on 3,226 hospitals that

FIGURE 4-4

Hospital wage rates in low-wage areas are higher than expected

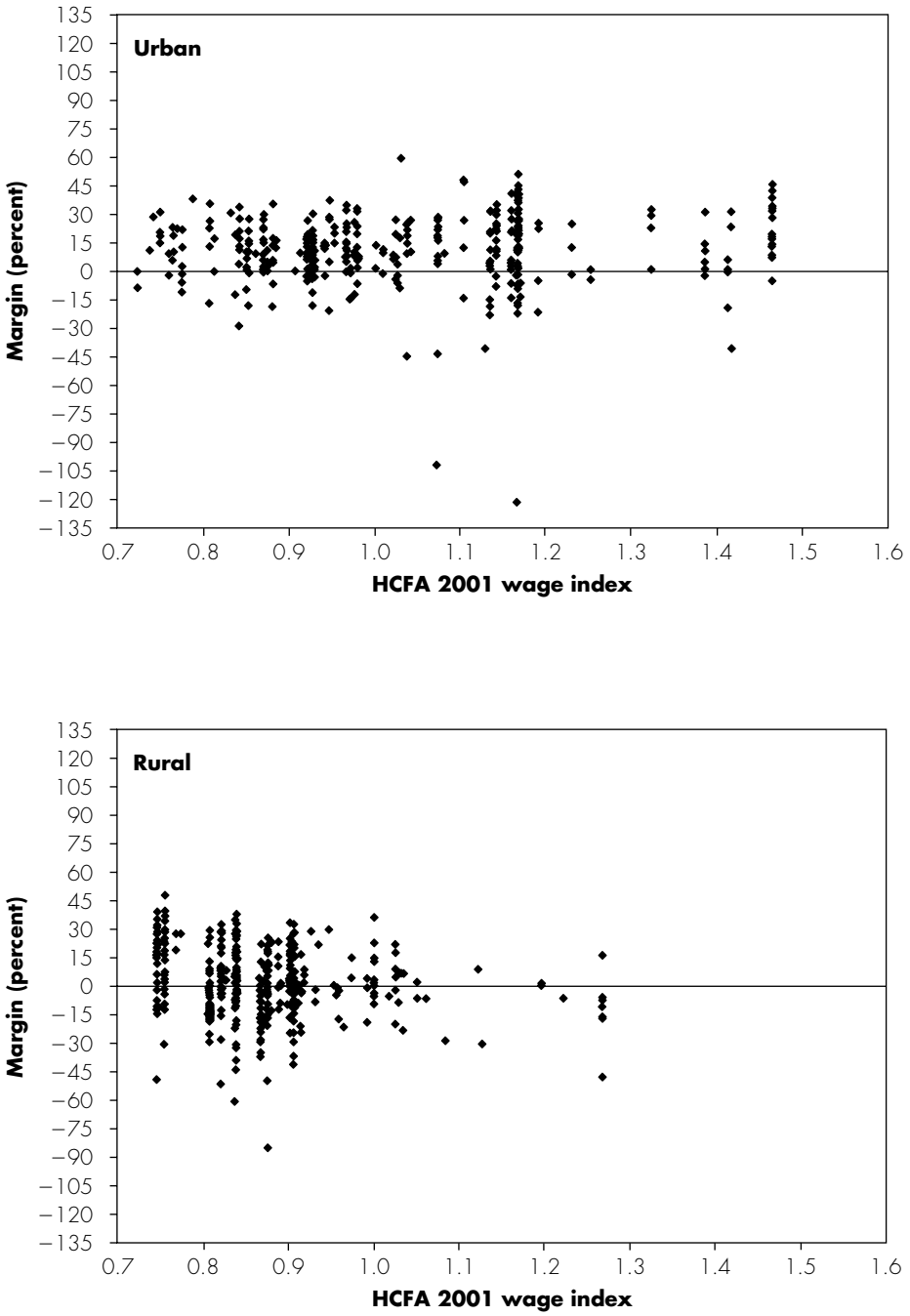


Note: Observations are average hourly wage rates for labor market areas defined by metropolitan statistical areas and statewide rural areas. 45° line indicates perfect match between relative wage rates for hospital workers and those for all workers. R^2 line shows that hospital workers' wage rates are comparatively high in areas where all workers' wages are low and comparatively low where all workers' wages are high.

Source: MedPAC analysis of HCFA hospital wage data for 1997 and all industries wage data for 1997 from the Bureau of Economic analysis, Department of Commerce.

FIGURE 4-5

Medicare inpatient margins by wage index value, urban and rural hospitals, 1999



Source: MedPAC analysis of data from HCFA.

have thus far reported Medicare inpatient margin data for cost reporting periods beginning during fiscal year 1999. The floor would raise the wage index—and inpatient payments—for 78 percent of rural hospitals that had negative Medicare inpatient margins in that year, but it also would raise the index for 84 percent of those that had high Medicare inpatient margins (greater than 12 percent). If a floor were implemented at 0.9, without the statutory budget-neutrality requirement that ordinarily applies to changes in the wage index, total payments under the hospital inpatient PPS would rise by roughly $700 million per year.

Another option would be to adopt some form of wage index compression. The expected effects of occupational-mix adjustment—raising the wage index at the low end and reducing it at the high end—are roughly consistent with those for wage index compression. The premise behind compression, however, is that occupational-mix differences are strongly positively related to the level of the wage index—these differences exaggerate the wage index smoothly at both ends, with the extent of exaggeration rising disproportionately the further the wage level departs from the national average. Occupational-mix differences are undoubtedly positively related to providers' case mix and to their hourly wage rates, but are likely to be highly variable across markets because they reflect the market composition of hospitals by type and bed size. As a result, occupational-mix differences are unlikely to be smoothly related to the market wage level. Wage rates might be understated by 6 percent in some low-wage rural markets but by only 0.5 percent in others. Similarly, wage levels may be overstated by 2 percent in some high-wage markets with many large teaching hospitals, but only 0.5 percent in others that have fewer large high-technology facilities. If this is so, wage index compression would overcorrect in some markets and undercorrect in others. Thus, like a wage index floor, compressing the wage index would result in arbitrary changes in the index and PPS payments, without improving payment policies for rural hospitals.

Another policy option would be to accelerate the phase-out from the wage index of compensation for teaching physicians, residents, and CRNAs. This phase-out is in its second year, so the wage index reflects a 60 percent/40 percent blend of old and new wage indexes; the old index includes wages and hours for these three groups and the new one does not. HCFA's rationale for the phase-out is that labor costs related to

TABLE 4-9

Hospitals sheltered by labor market average wage rate

Hospital type	Before geographic reclassification: Proportion sheltered	Before geographic reclassification: Percent difference from average	After geographic reclassification: Proportion sheltered	After geographic reclassification: Percent difference from average
All	62%	13%	67%	13%
Rural	64	15	73	14
Rural referral	31	6	76	9
Sole community	67	16	72	15
Other	68	15	73	15

Note: Sheltered hospitals are those with average hourly wages below the labor market average.

Source: MedPAC analysis of HCFA wage index.

teaching activities are reimbursed through direct graduate medical education (GME) payments, not the inpatient PPS.

Similarly, CRNA services generally are paid under Medicare Part B, also outside the inpatient PPS. HCFA's impact analysis suggests that changing the blend from 80/20 to 60/40 in fiscal year 2001 raised the wage index about 0.1 percent in rural areas and decreased it by a negligible amount in urban areas.[26] The effect of completing the phase-out—eliminating the old index and using only the new one—might not be negligible for some areas, but it would not be large in any case (Table 4-11).

RECOMMENDATION 4C

In fiscal year 2002, the Secretary should implement fully the policy of excluding from the hospital wage index salaries and hours for teaching physicians, residents, and certified registered nurse anesthetists.

Labor markets used for the wage index

Earlier research by ProPAC and others showed systematic differences in hospital wage levels within many urban and rural labor market areas (ProPAC 1991, DeLew 1992, Hendricks 1989, Schmitz and Merrell 1987). MSAs and statewide rural areas are frequently too large to capture homogeneous labor markets for health care workers (Figure 4-6). More recent analysis suggests that statewide rural areas typically contain three distinct markets (Dalton et al. 2000).

Moreover, the political boundaries that define current labor market areas often arbitrarily separate facilities that participate in the same labor market. For instance, Coeur D'Alene in rural Idaho is a short drive from Spokane, Washington, but the rural Idaho wage index (0.8678) is almost 18 percent lower than that for Spokane (1.0513). As a result, some hospitals can argue legitimately that a nearby labor market area (and its wage index) more accurately reflects their market circumstances than the labor market area in which they are physically located.

To address this problem, the Congress established a process enabling hospitals to appeal their labor market assignments and request reclassification. To qualify, rural hospitals generally must:

- be located close to (within 15 miles) the border of the area to which they seek to be reassigned.
- demonstrate that they are disadvantaged because their average hourly wage rate is more than 106 percent (108 percent if urban) of the average hourly wage in their actual labor market location.
- demonstrate that their wage rates are similar to those in the nearby area; their average hourly wage must be at least 82 percent (84 percent if urban) of the average wage rate in the adjacent area.

The Clinton Administration lowered the criteria for rural hospital reclassifications for fiscal year 2001. HCFA estimated that about 50 rural hospitals would benefit from this change. In fiscal year 2001, 490 hospitals (a little less than 10 percent of all hospitals receiving PPS payments) are reclassified for the wage index because they met these or related criteria.

TABLE 4-10

Hospitals affected by a wage index floor of 0.9, by financial status under Medicare's inpatient prospective payment system, fiscal year 1999

Hospital location	Low inpatient margin: Number affected	Low inpatient margin: Percent of low-margin hospitals	Low inpatient margin: Percent change in wage index	High inpatient margin: Number affected	High inpatient margin: Percent of high-margin hospitals	High inpatient margin: Percent change in wage index
All hospitals	608	56%	9.0%	516	43%	10.4%
Urban	107	24	5.0	133	18	5.2
Rural	501	78	9.9	383	84	12.2

Note: Low inpatient margin defined as having a Medicare inpatient margin below zero in 1999. High inpatient margin defined as having a Medicare inpatient margin above 12 percent in 1999.

Source: MedPAC analysis of HCFA wage index data and data from hospitals' cost reports for fiscal year 1999.

26 The estimated decrease was negligible even in the urban Middle Atlantic region, where we would expect the largest effects because of the high concentration of teaching hospitals.

TABLE 4-11

Impact on Medicare inpatient margins of phasing out teaching salaries and certified nurse anesthetists

	Baseline			After policy change	
Hospital group	Margin	Percent of hospitals with negative margin	Change in payments	Margin	Percent of hospitals with negative margin
All hospitals	12.4%	30.2%	0.0%	12.4%	29.8%
Urban	13.6	25.3	−0.1	13.5	25.0
Rural	5.8	36.3	0.3	6.0	39.7
Rural referral	6.0	32.2	0.5	6.3	28.7
Sole community	5.9	32.0	0.3	6.0	31.8
Small rural Medicare-dependent	10.2	30.7	0.2	10.4	30.2
Critical access	−4.2	66.7	0.2	−4.1	66.1
Other rural <50 beds	6.9	38.9	0.2	7.0	38.9
Other rural ≥50 beds	4.0	40.9	0.2	4.3	40.9
Urban					
Low-margin	−7.3	97.3	0.2	−7.1	93.7
Mid-margin	6.5	0.0	−0.1	6.4	1.9
High-margin	23.6	0.0	−0.1	23.9	0.0
Rural					
Low-margin	−8.3	90.3	0.3	−7.8	88.6
Mid-margin	6.9	0.0	0.4	7.2	0.3
High-margin	22.7	0.0	0.2	22.8	0.0

Note: Baseline margin is the actual 1999 margin adjusted to reflect the change in disproportionate share payments enacted by the Benefits Improvement and Protection Act of 2000. Analysis based on data from two-thirds of the hospitals covered by prospective payment in 1999.

The critical access hospital (CAH) group includes hospitals that were designated CAHs in 1999 or after, and the results estimate what the baseline margin and impact of the policy change would have been had they remained in the PPS. Those becoming CAHs before filing their 1999 Medicare cost reports were excluded from the analysis due to lack of data.

Low-margin is defined as having a Medicare inpatient margin below zero in 1999, which included 17 percent of urban and 30 percent of rural hospitals. High-margin defined as above 12 percent, which included 27 percent of urban and 21 percent of rural hospitals.

Source: MedPAC analysis of data from HCFA.

Although the geographic reclassification process alleviates some problems, it also creates new ones. First, the criteria for reclassification are not completely consistent with Medicare's payment policy goals. For instance, hospitals can qualify for reclassification and receive higher payments simply because they pay high wage rates relative to the market average, or because they have an unusually costly occupational mix. Reclassification thus can reward some hospitals regardless of their efficiency, giving them payment increases of 12 percent or more and a competitive advantage over other hospitals in their actual market area.

Another problem is that the payment differentials at the edges of labor market areas are not eliminated by reclassification; instead they are shifted, leaving different sets of hospitals affected. Finally, reclassification can result in large swings in hospitals' payments if they fail to qualify in any one year because of data errors or changes in the wage index calculation. However, the BIPA addressed this problem to some degree by extending the period for which reclassification applies; hospitals that qualify can remain reclassified (if they want to) for three years.

Despite these problems, the geographic reclassification policy ameliorates wage index differentials at the boundaries of labor market areas for some hospitals, generally without imposing substantial redistribution of payments on other hospitals. After reclassification, the hospitals remaining in the most populous rural labor markets exhibit greater wage rate homogeneity (Dalton et al. 2000). Although reclassification is certainly imperfect, it is probably worth retaining until the underlying labor market boundary problem can be solved. Adopting an occupational-mix adjustment may help somewhat, and occupation-specific wage data would enable HCFA to evaluate alternative labor market definitions. But major labor market improvements are not likely in the near future. Consequently, geographic reclassification probably should be retained for now.

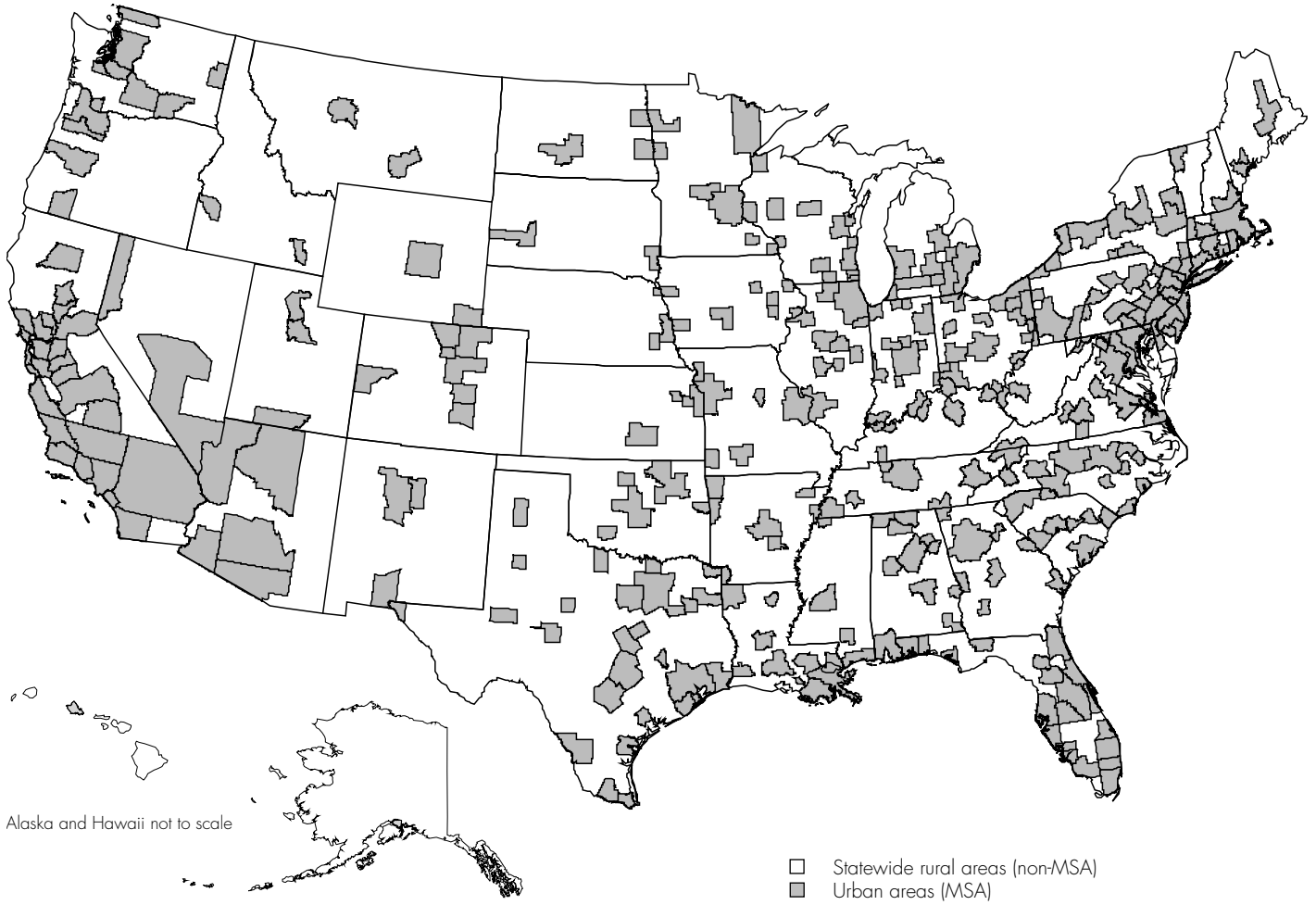
Age of the wage index data

By the time the wage index is applied to adjust payments, the underlying wage data are four years old. In general, wage rates have been increasing faster in rural areas than in urban ones (the differential was 0.7 percent in 1995, 0.4 percent in 1996, and 0.6 percent in 1997). Thus, policymakers might conclude that using old data delays justified increases in payments for rural providers. Still, relative wage levels across geographic areas apparently have remained nearly constant over time, although this finding might change if local or regional scarcities of medical professionals eventually affect wages only in certain areas (Dalton et al. 2000).

Recently, many providers have indicated that they are facing increased difficulties finding adequate numbers of well-trained nurses. These shortages, however, appear

FIGURE 4-6

Labor market areas for the hospital wage index



Note: MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

to be widespread across most markets and thus do not raise immediate issues regarding the accuracy of the wage index. Rather, to the extent that all providers must pay more (higher wage rates or improved fringe benefits) or improve working conditions to attract additional nurses, the increase in input prices would be reflected in the annual update to Medicare's inpatient PPS payment rates through forecast changes in the HCFA hospital market basket index—a measure of inflation in the prices providers must pay to buy inputs needed to produce care (MedPAC 2001).

The four-year data lag comes from using hospitals' cost reports as the data collection vehicle. This approach helps to ensure reporting compliance and enables important data quality improvements. Moreover, because feasible alternative approaches for obtaining accurate data are not apparent, more timely data may never be available.

Labor share used in geographic adjustment

The labor share, which HCFA revises periodically in updating the market basket index, is an estimate of the national average proportion of providers' costs associated with inputs that are directly or indirectly affected by local market wage levels.[27] It is used to determine the portion of the national PPS base payment rate to which the wage index is applied. For inpatient hospital services, the labor share is 71.1 percent and includes wages and salaries, fringe benefits, and other labor-related costs that are intended to capture spending for locally purchased inputs (Table 4-12).

27 HCFA has established labor shares based on the weights for their market basket indexes for most facility PPSs, including those for hospital inpatient, skilled nursing, rehabilitation, and home health services.

TABLE 4-12

Components of national labor share for hospital inpatient care

Category	Share
Total labor-related	71.1%
Wages and salaries	50.2
Employee benefits	11.2
Non-medical professional fees	2.1
Postage	0.3
All other labor-intensive	7.3

Note: All other labor-intensive includes business services, computer processing, landscape and horticultural services, building maintenance and repair, laundry services, auto repair, payments to membership organizations, appliance repair, and indirect business taxes.

Source: HCFA analysis of hospital data from U.S. Census, Bureau of Economic Analysis, American Hospital Association, and Health Care Provider Cost Report Information System (HCRIS).

The definition of the labor share raises several potential concerns:

- Rural and urban providers may use different mixes of labor and capital.
- The costs included in the labor share and those included in the wage index do not match. The wage index excludes contract labor costs for non-patient care services, such as purchased professional services, computing, and laundry and dietary services. These services are excluded because it is difficult to separate labor costs from overhead costs or accurately assign labor hours for contracted services.
- Some of the purchased labor-intensive services included in the labor share definition, such as postage or non-medical professional fees, likely are purchased in national markets or are frequently available at geographically uniform prices.

Some rural health care advocates and providers have argued that the current labor share overstates the proportion of costs rural hospitals devote to labor and other locally purchased inputs. The proposed remedy—lowering the labor share—would reduce the proportion of the national base payment amount adjusted by the wage index. Consequently, hospitals located in low-wage markets (wage index less than 1.0) would receive higher payments, while those located in high-wage markets would receive lower payments. Overall, this policy change would transfer payments from urban to rural hospitals. Some urban hospitals would benefit, however, because they are located in markets with wage indexes below 1.0, and some rural hospitals would receive reduced payments because they are located in market areas with wage indexes above 1.0. Any decrease in payments for areas with wage indexes values above 1.0, however, would be partly offset by a positive budget-neutrality adjustment.

Although the national average labor share is 71.1 percent, the implied labor share—the proportion of Medicare's payment per case that is associated with local labor and related expenses—varies with the wage index (Table 4-13). In a low-wage area, multiplying the national labor-related amount by a wage index less than 1.0 (0.75, for example) reduces the labor-related portion of payments substantially below the national average—to 64.9 percent in this example. Conversely, the implied labor share is much higher than the national average in labor markets with relatively high wage rates. Consequently, the labor share that applies to each hospital's payment is the local share after wage index adjustment.

Differences in labor and non-labor shares might be addressed by using provider-specific labor shares. However, this would enable providers to manipulate their payments by increasing or decreasing wages and fringe benefits relative to other costs. It would also give them inappropriate incentives to purchase certain services under contract rather than produce them. Further, Medicare's payment rates in a market area would not reflect the costs efficient providers would incur to furnish care, but rather providers' individual choices about production methods, whether or not they were efficient.

The labor share problem also could be addressed by reexamining the national labor share. The input categories included in the labor share were originally selected in 1983 when the hospital inpatient PPS was adopted. Most of these inputs are still largely purchased in local markets. However, some categories, such as postage, are likely purchased in national markets and not influenced by local wage levels. Still others (computer and data processing services, for instance) may include some inputs that are purchased in national markets and some that are bought in local ones. As a result, the national

TABLE 4-13

Effect of wage index adjustment on labor share

	Wage index value		
	1.0	**0.75**	**1.5**
Labor-related amount	$2,849	$2,849	$2,849
Non-labor amount	1,158	1,158	1,158
Wage-adjusted amount	2,849	2,137	4,274
Local base payment	4,007	3,295	5,432
Local labor share	71.1%	64.9%	78.7%

Note: Wage adjusted amount = labor-related amount x wage index. Local base payment = wage-adjusted amount + non-labor amount. Local labor share = wage-adjusted amount / local base payment.

Source: MedPAC analysis of HCFA wage index.

average labor share may be somewhat lower than the current estimate of 71.1 percent.

RECOMMENDATION 4D

To ensure accurate input-price adjustments in Medicare's prospective payment systems, the Secretary should reevaluate current assumptions about the proportions of providers' costs that reflect resources purchased in local and national markets.

Unequal payment formula for disproportionate share payments

Medicare's DSH adjustment for hospital inpatient services is designed to offset the financial pressure of uncompensated care and inadequate payments from Medicaid and other indigent care programs. However, despite improvement in the DSH payment system implemented through the BIPA, the current system still provides substantially smaller payment add-ons for rural facilities. In our March 2000 and March 2001 Reports, MedPAC recommended a comprehensive reform of the DSH adjustment that would apply a consistent payment formula for all hospitals. Medicare cannot implement this reform for at least two years, however, so the Commission recommends an interim step that would help rural hospitals now while providing a transition toward the system we envision for the longer term.

Description of the disproportionate share payment system

Medicare distributes DSH payments through a hospital-specific percentage add-on to the PPS base payment rate. Consequently, a hospital's DSH payments are tied to its volume and mix of PPS cases. The add-on for each case is determined by a complex formula based on the hospital's share of low-income patients, which is the sum of two ratios—Medicaid patient days as a share of total patient days, and patient days for Medicare beneficiaries who receive Supplemental Security Income (SSI) as a percentage of total Medicare patient days.

The original justification for the DSH adjustment presumed that poor patients are more costly to treat, but ProPAC adopted an alternative premise that had evolved over time: to protect access to care for Medicare beneficiaries, additional funds should be provided to hospitals whose viability might be threatened by providing care to the poor. Although the financial pressure from treating low-income patients can include any extra costs incurred, the primary threats are underpayment or nonpayment. MedPAC data have shown that Medicaid payments are the lowest relative to costs of the major payer groups, the payments of local indigent care programs are usually even lower, and uninsured patients generate the least funding, even after accounting for local operating subsidies.

Problems with the current system and responses to date

The Commission believes that policy changes are needed to ameliorate two key problems inherent in the existing DSH payment system:

- the current low-income share measure does not include care to all the poor, most notably omitting uncompensated care, and
- the system has separate payment rates for 10 specific hospital groups, with the least favorable rates given to most rural hospitals and urban facilities with fewer than 100 beds.

The BIPA improved the equity of DSH payments by applying the most liberal current threshold (minimum low-income share needed to qualify for a payment adjustment) to all hospitals. We estimate that this will make about 840 additional rural hospitals (40 percent of all rural facilities) eligible to receive DSH payments. However, the BIPA caps the DSH add-on a rural hospital can receive at 5.25 percent, except for those rural hospitals already receiving higher payments due to their SCH or RRC status. Some large urban facilities currently receive much higher adjustments.

In this year's March report, the Commission concluded that although the BIPA significantly improved the equity of DSH payments between rural and urban hospitals, additional changes are still needed. The only way to create true equity between urban and rural hospitals is to use the same distribution formula for all hospitals (MedPAC 2001).

Additional changes needed

The changes we have recommended cannot be implemented for two to three years, while HCFA collects the necessary low-income patient cost data. The BBRA mandated this data collection effort for hospital cost reporting periods beginning in fiscal year 2001. In addition, the Congress will have to legislate a new distribution formula or provide guidelines to HCFA for developing the formula.

One step to bridge the gap between the BIPA provision and the system MedPAC envisions when comprehensive low-income share data become available would be to raise the cap on the DSH add-on a rural hospital can receive. Although there is no right level for the cap, a cap of 10 percent would distribute DSH monies roughly midway between the distribution that BIPA will produce and the distribution implied by urban and rural hospitals' cost shares for the largest two groups of low-income patients. Rural hospitals were responsible for 12.8 percent of the care provided to Medicaid and uncompensated care patients nationally in 1999 (Table 4-14). With the DSH payment rules in effect through 2000, only 3.1 percent of payments went to rural facilities; BIPA rules would increase this proportion to 6.9 percent. Raising the cap to 10 percent would lift rural hospitals' share of DSH payments to 9.8 percent.

This change would raise payments for some rural hospitals with large low-income populations that do not benefit from the higher DSH payments available to hospitals that qualify for the sole community hospital and rural referral center programs. In addition, if the Congress chose to provide new funding to implement the higher cap (which would

cost about $180 million per year), the change would minimize the shift of payments from urban to rural hospitals that would occur when the program implements a single distribution formula for all hospitals two or three years down the line. Finally, the 10 percent cap on DSH payments for all rural hospitals would match the cap currently in law for SCHs, thus eliminating an unnecessary discrepancy among rural hospital groups.

RECOMMENDATION 4E

The Congress should raise the cap on the disproportionate share add-on a rural hospital can receive from 5.25 percent to 10 percent.

A 10 percent cap on DSH payments with new funding would increase rural hospitals' payments, on average, by 1.4 percent (Table 4-15). Hospitals that do not have access to any of Medicare's current special payments for rural hospitals would benefit the most; those with fewer than 50 beds would get a 1.9 percent increase and larger facilities a 2.3 percent boost. If, in light of the additional DSH funding provided by the BIPA, the Congress decided to implement the change by redistributing the current funding, the currently favored hospitals—those in urban areas with more than 100 beds—would absorb a 0.2 percent cut in their DSH payments, and the gain to rural facilities would be reduced to 1.2 percent.

Congress should not remove the DSH payment cap altogether now, for two reasons. First, it would inevitably result in some hospitals receiving large increases in their DSH payments, only to have their payments cut again when uncompensated care is brought into the low-income shares used to distribute payments.

Eliminating the cap might also result in unnecessarily large payment increases for some rural hospitals, and the aggregate increase in payments would be three times that of our recommended approach. The current DSH distribution formula is graduated, offering a higher payment rate for the mostly public, inner-city hospitals with the largest low-income shares. This was done in an attempt to compensate for

TABLE 4-14

Urban and rural hospitals' shares of low-income patient costs and disproportionate share payments

Hospital group	Share of low-income costs	Share of disproportionate share payments: Prior to the BIPA	Share of disproportionate share payments: 5.25 percent cap	Share of disproportionate share payments: 10 percent cap
Urban	87.2%	96.9%	93.1%	90.2%
Rural	12.8	3.1	6.9	9.8

Note: The 5.25 percent cap on the disproportionate share add-on was enacted by the Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA), and went into effect on April 1, 2001. Low-income costs for this analysis include Medicaid and uncompensated care.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals and HCFA.

TABLE 4-15

Impact on Medicare inpatient margins of raising the cap on disproportionate share payments to 10 percent

Hospital group	Baseline: Margin	Baseline: Percent of hospitals with negative margin	Change in payments	After policy change: Margin	After policy change: Percent of hospitals with negative margin
All hospitals	12.4%	31.7%	0.2%	12.6%	30.1%
Urban	13.6	25.4	0.0	13.6	24.9
Rural	5.6	38.9	1.4	6.8	35.9
Rural referral	6.0	32.2	1.4	7.2	27.6
Sole community	5.9	32.0	0.3	6.3	30.5
Small rural Medicare-dependent	10.2	30.7	0.9	11.0	29.1
Critical access	−4.2	66.7	0.8	−3.4	62.9
Other rural <50 beds	6.9	38.9	1.9	8.6	37.5
Other rural ≥50 beds	4.0	40.9	2.3	6.1	34.5
Urban					
Low-margin	−7.3	97.3	0.1	−7.2	95.5
Mid-margin	6.5	0.0	0.0	6.5	0.0
High-margin	23.6	0.0	0.0	23.6	0.0
Rural					
Low-margin	−8.3	91.0	1.2	−7.0	84.1
Mid-margin	6.9	0.0	1.2	8.0	0.0
High-margin	22.7	0.0	1.7	24.0	0.0

Note: Baseline margin is the actual 1999 margin adjusted to reflect the change in disproportionate share payments enacted by the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000. Analysis based on data from two-thirds of the hospitals covered by prospective payment in 1999.

The critical access hospital (CAH) group includes hospitals that were designated CAHs in 1999 or after, and the results estimate what the baseline margin and impact of the policy change would have been had they remained in the prospective payment system. Those becoming CAHs before filing their 1999 Medicare cost reports were excluded from the analysis due to lack of data.

Low-margin is defined as having a Medicare inpatient margin below zero in 1999, which included 17 percent of urban and 30 percent of rural hospitals. High-margin is defined as above 12 percent, which included 27 percent of urban and 21 percent of rural hospitals.

Source: MedPAC analysis of data from HCFA.

these hospitals' unusually large uncompensated care burdens and their low Medicare penetration (often below 20 percent). Applying this formula in rural areas, where small hospitals have much higher Medicare penetration (often 80 percent or more), could result in windfall-level payment adjustments. If Congress approves revamping the DSH payment system to bring uncompensated care into the low-income share calculation, it can avoid this problem by applying a single formula to all hospitals without a graduated rate structure.

It would be best to make DSH payment add-ons up to 10 percent available to all hospitals without taking away the higher rates currently available to qualifying rural referral centers and urban hospitals of over 100 beds. Unfortunately, this requires most of the overly complex formulation in current law to be maintained (Table 4-16).

TABLE 4-16 **Payment formulas required to implement MedPAC's recommendation on disproportionate share payments**

Hospital group	Adjustment formula
Urban ≥ 100 beds and Rural ≥ 500 beds	If DPP = 15% to 20.2%: 2.5% + 0.65 (DPP−15%) If DPP ≥ 20.2% or more: 5.88% + 0.825 (DPP−20.2%)
Rural referral *	If DPP = 15% to 20.2%: 2.5% + 0.65 (DPP−15%) If DPP = 20.2% to 25.2%: 5.88% + 0.825 (DPP−20.2%) If DPP = 25.2% to 30%: 10% If DPP ≥ 30%: 10% + 0.6 (DPP-30%)
Urban 1-99 beds, Sole community, and Other rural 1-499 beds	If DPP = 15% to 20.2%: 2.5% + 0.65 (DPP−15%) If DPP = 20.2% to 25.2: 5.88% + 0.825 (DPP−20.2%) If DPP ≥ 25.2%: 10%

Note: DPP (disproportionate patient percentage).
*A rural referral center that is also a sole community hospital receives the larger disproportionate share payment adjustment.

Source: MedPAC analysis.

Inpatient psychiatric care

Inpatient psychiatric facilities—freestanding hospitals and hospital-based units—specialize in treating patients with mental illnesses who range in disability from temporary disturbances to ongoing psychotic states.[28] They also provide treatment for alcohol and drug-related problems. These facilities are exempt from the hospital inpatient PPS.

The BBA dramatically changed payment for the 2,100 PPS-exempt psychiatric facilities by requiring one target cap for all facilities. Because rural psychiatric facilities may be disproportionately affected by the new payment method, which could influence rural beneficiaries' access to care, the Congress required MedPAC to analyze the impact of patient volume on rural facilities' unit costs and to determine whether special treatment may be warranted.

We conclude that the single target cap is problematic and recommend that it be revised to account for differences in patient characteristics. Government-owned hospitals appear to treat a different beneficiary population than do other facilities and are disadvantaged by a single cap. Although rural hospital-based units do not appear to treat a systematically different population, they do have higher unit costs and further work is needed to determine why. We also note that while rural beneficiaries' access to some types of psychiatric care may be affected by hospitals closing their PPS-exempt psychiatric units to apply for CAH status, CAHs are not precluded from providing basic psychiatric services. Finally, we provide policymakers with preliminary information about two of the challenges they face in designing a PPS for inpatient psychiatric care.

Changes in payment methods

The BBA created a single national payment cap for PPS-exempt psychiatric facilities. Before the BBA, these facilities

28 Inpatient psychiatric care is also provided in regular beds in acute hospitals, usually called "scatter beds." In 1995, these patients represented 28 percent of beneficiaries treated on an inpatient basis for psychiatric conditions (Cano et al. 1997). Medicare pays for patients in scatter beds under the hospital inpatient PPS.

received a base operating payment for each discharge equal to the lesser of their current operating costs or a facility-specific target, based on their historical operating costs trended forward by an inflation factor. The BBA required that a facility's target amount be capped at the 75th percentile of all target amounts nationally. Psychiatric facilities are now paid the least of their own costs, their own target, or the national cap (which is $11,364 per case for fiscal year 2001).[29]

Medicare beneficiaries may experience difficulty in accessing care when payment methods change because changes in financial performance can affect facilities' willingness to admit them or the quality of care provided to them. In 1998, the first post-BBA year, psychiatric facilities' aggregate margin decreased by 5 percentage points from the previous year, to –2.3 percent, reversing an earlier upward trend. Exit of facilities from the Medicare program also can be an indicator of potential payment problems. After years of increases, the number of hospital-based units declined 14 percent from 1999 to 2000. These trends could be early warnings that beneficiaries needing psychiatric care may experience access problems.

Problems with the target cap

One target cap, based on national averages, assumes that all PPS-exempt psychiatric facilities have a similar mix of cases. We found that government-owned hospitals treat more costly beneficiaries than other facility types; a single target cap clearly disadvantages these hospitals. Hospital-based units in rural areas have higher costs than units in urban areas, but we were unable to test the relationship between those higher costs and patient characteristics, volume, or allocation of administrative costs of those facilities in the time allowed. However, a single target cap for all facilities appears inappropriate.

Historically, psychiatric facilities have played different roles (Eselius 2000). ProPAC (1992) found that psychiatric providers were arrayed on a continuum of patient complexity. PPS hospital scatter beds fell at the low end of the continuum, followed by hospital-based units and non-government hospitals, while government-owned hospitals were at the high end. ProPAC found that government-owned hospitals had longer lengths of stay and admitted higher proportions of disabled beneficiaries and involuntarily committed patients than other facility types. (Disabled beneficiaries who use inpatient psychiatric care are more likely to be disabled because of mental illness.)

We compared PPS-exempt facility types—government-owned freestanding hospitals, other freestanding hospitals, and hospital-based units—to determine whether these historical differences are still present. We also tested whether different facility types have similar case mixes. We found that government-owned hospitals have patterns consistent with historical data, but that patterns for other hospitals and units may have changed.

Government-owned hospitals in both rural and urban areas have lengths of stay twice as long as other facility types, as well as higher costs per case (Table 4-17).[30] They admit a larger proportion of disabled

TABLE 4-17 **Patient and psychiatric facility characteristics, by facility type and urban or rural location**

		Patient characteristics		Facility characteristics			
	Number of facilities	Disabled	Committed involuntarily	Average length of stay (days)	Average case-mix index	Average cost per case	Average percent over cap
Rural facilities							
Government-owned	41	77%	22%	24	N/A	$10,631	54%
Hospital-based	348	45	2	11	1.01	7,770	30
Freestanding	25	65	4	12	0.95	6,300	4
Urban facilities							
Government-owned	119	81	20	26	N/A	9,560	54
Hospital-based	979	55	1	12	1.01	6,481	11
Freestanding	274	69	2	12	0.97	5,297	4

Note: Cost per case is standardized for wage index; cap for fiscal year 1998 = $10,547. Length of stay and cost per case weighted by discharges. Case-mix index calculated using all patient refined diagnosis related groups (APR-DRGs). N/A (not applicable); we were unable to calculate comparable case-mix index values for government-owned hospitals.

Source: MedPAC analysis of fiscal year 1998 cost reports and 1997 MedPAR data from HCFA.

29 The labor-related portion of the cap is adjusted by the local wage index. The target cap also affects extra payments and future payments; annual updates to rates are linked to the extent to which a facility's costs exceed or fall below its target amount. The cap's effect on extra payments and annual updates is small relative to its effect on payment per case, but these additional effects can exacerbate poor financial performance for facilities with costs above the cap.

30 All psychiatric facilities' costs have been standardized by removing the effects of geographic differences in wage levels.

beneficiaries and a much larger proportion of Medicare patients who are involuntarily committed. Consistent with this greater patient complexity, government-owned hospitals in both urban and rural areas had the highest costs per case and more than half of these hospitals had an average cost per case above the target cap. The hospitals with costs above the cap also had average costs of almost double the cap. We found that it was impossible to compare case mix for government-owned hospitals with that for other facility types because their costs were so different. Government-owned hospitals may have higher costs in part because they cannot refuse patients.

Other freestanding hospitals (not government-owned) and hospital-based units in both rural and urban areas have similar lengths of stay—between 11 and 12 days. Urban freestanding hospitals have a higher case-mix index than do their rural counterparts, but costs per case are higher in rural areas. Urban and rural hospital-based units have an identical case-mix index (1.01), but units in rural areas have a higher cost per case and are more likely to be over the target cap.

To examine differences in hospital-based units' case mix, lengths of stay, and costs per case more closely, we used urban influence codes (UICs).[31] In general, as hospital-based units become more rural, cost per case increases (Table 4-18). Average lengths of stay vary in rural areas, from 9 to 14 days, but generally increase as case mix increases. For example, facilities in areas not adjacent to an MSA but including a town with at least 10,000 people have the lowest case-mix index, shortest average length of stay, and lowest cost per case. Totally rural areas (not adjacent to an MSA and not including a town with at least 2,500 people) have the highest case-mix index, longest average length of stay, and highest cost per case. However, in the two UICs with an 11-day average length of stay, case mix differs slightly but costs vary widely—the area with a lower case-mix index has an average cost per case 31 percent higher than the area with the higher case mix.

As units become more rural, the proportion with costs over the cap generally increases. Almost three-fourths of units in totally rural areas have costs above the cap. However, the average cost per case for hospital-based facilities above the cap is similar, regardless of whether they are urban or rural, and ranges from $12,989 to $14,572.

TABLE 4-18

Hospital-based units' length of stay and cost per case

Location of hospital-based unit (UIC)	Number	Average length of stay	Average case-mix index	Average standardized cost per case (CPC)	Percent over cap	Average CPC for facilities over cap
Urban, in an MSA (1,2)	979	12	1.01	$6,914	11%	$13,842
Rural	348	11	1.01	8,424	30	13,776
Adjacent to an MSA and includes a town with at least 10,000 people (3,5)	107	11	1.01	7,654	21	13,021
Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)	71	13	1.02	9,123	34	13,622
Not adjacent to an MSA but includes a town with at least 10,000 people (7)	87	9	0.99	6,791	14	12,989
Not adjacent to an MSA but includes a town with between 2,500 and 10,000 people (8)	64	11	1.00	10,025	47	14,572
Not adajcent to an MSA and does not include a town with at least 2,500 people (9)	19	14	1.04	12,230	74	14,098

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture). MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget). Cost per case is standardized for wage index; cap for fiscal year 1998 = $10,547. Length of stay and cost per case weighted by facilities. Case-mix index calculated using all patient refined diagnosis related groups (APR-DRGs).

Source: MedPAC analysis of fiscal year 1998 cost reports and 1997 MedPAR data from HCFA.

31 See Chapter 1 for more information on UICs.

Higher costs may be related to volume, or rural PPS hospitals may allocate a greater proportion of overhead to psychiatric units. Rural units may also be more likely to have management contracts. One management company has reported to us that its fees are $175,000 per year for a 10-bed unit, which could add an additional $1,300 or more to the cost per case. These contracts may be necessary for rural hospitals to have PPS-exempt psychiatric units; however, it will not be possible to systematically identify facilities with management contracts for our future work on this issue because of data limitations.

One target cap for all psychiatric facilities is inappropriate. A single cap disadvantages government-owned freestanding hospitals and may disadvantage rural hospital-based units as well. The BBRA required HCFA to develop a PPS for exempt psychiatric facilities for implementation in October 2002. Revising the cap will provide a stopgap in the event that the PPS is not in effect by that time.

RECOMMENDATION 4F

The Congress should revise the target cap for inpatient psychiatric facilities in a way that better addresses differences among them.

More knowledge about the reasons for differences among facilities will be needed to design more appropriate caps because the major consequence of introducing more than one target cap will be to redistribute payments. For example, if government-owned hospitals have their own cap, the cap for other facilities will be lower. The proportion of rural facilities with costs above the cap may be even greater with a separate cap for government hospitals. Facilities with costs per case above the new cap may discharge patients prematurely or may refuse to admit beneficiaries they believe to be costly. HCFA's current research on psychiatric facilities will provide more information on why differences exist.

Critical access hospitals and psychiatric units

Another potential problem for beneficiary access may result from hospitals closing their PPS-exempt psychiatric units to apply for CAH status. Psychiatric unit beds and lengths of stay are included in the CAH qualifying criteria (maximum 15 acute care inpatient beds and an average length of stay of 96 hours).

On the one hand, closing a psychiatric unit could affect rural beneficiaries' access to psychiatric care in specialized facilities near their homes. On the other hand, CAHs are not precluded from admitting, stabilizing (through a scatter bed approach), and transferring psychiatric patients or providing treatment in a day-hospital program. PPS hospitals frequently treat beneficiaries for psychiatric conditions in scatter beds, rather than in PPS-exempt specialty units (Cano et al. 1997).

Challenges in designing a prospective payment system for inpatient psychiatric care

The BBRA required HCFA to develop a PPS for psychiatric facilities. In the course of our preliminary study of inpatient psychiatric care, two issues emerged that may complicate developing a PPS for these facilities. Developers of other prospective payment systems have faced one of these challenges in the past, but the other issue may be unique to psychiatric facilities.

First, the data reported by psychiatric facilities are inaccurate. Although patients in PPS-exempt psychiatric facilities must have a principal psychiatric diagnosis, about 6 percent of the hospital-based units' stays had no psychiatric diagnosis. In addition, facilities do not report medical comorbidities, although psychiatric patients frequently have them. We believe these errors result from facilities' lack of attention to coding diagnoses because their payment is currently unaffected. Developers of other PPSs have also encountered inaccurate coding and found ways to compensate.

We were unable to use the same weights to derive a case-mix index for government owned hospitals that is comparable to the index for other facility types because the measured relative costliness for patients with the same diagnosis was very different. For example, patients with schizophrenia treated in government-owned hospitals have an average charge as much as three times that of patients treated in other facilities. This meant we could not construct a valid measure of case mix for both government-owned and the other facility types. The inability to construct one set of relative weights for all patients could create problems in designing a PPS. However, if the differences in cost per case were exclusively the result of much longer lengths of stay, a per diem system could mitigate the effect of those differences. ■

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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.

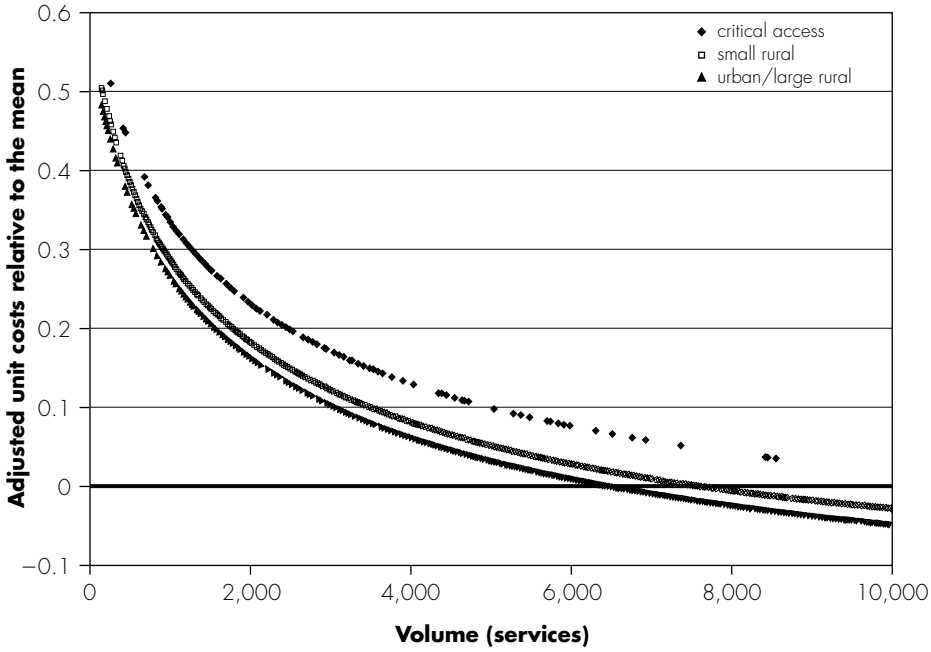
7 The bias is in the direction of showing economies of scale because one year of lower-than-average volume compared with average fixed costs will result in a higher unit cost at low volumes than would be obtained in a steady state. Conversely, one year of higher-than-average volume compared with average 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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CHAPTER 6

Prospective payment for home health services in rural areas

RECOMMENDATIONS

6A The Congress should not exempt rural home health services from the prospective payment system.

***YES: 13 • NO: 1 • NOT VOTING: 0 • ABSENT: 2**

6B The Secretary should study a sample of home health providers:

- to evaluate the impact of prospective payment on home health in rural areas,
- to evaluate costs that may affect the adequacy of prospective payments, and
- to find ways to improve all cost reports.

YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 6

Prospective payment for home health services in rural areas

In this chapter

- Evolving to the current system
- Components of the prospective payment system
- Home health agency closures
- Need for better data

Should rural home health services be exempt from the new prospective payment system? Rural health care advocates, among others, have suggested that the new payment system may not adequately account for unique conditions in rural areas. Lack of experience with the new system and other data limitations prevent a direct comparison of the costs in rural and urban areas. However, our analysis concludes that the components of the new payment system should work equally well in rural and urban areas. Accordingly, we recommend that rural home health services not be exempt from the prospective payment system. We also recommend that data collection be improved to assess whether any higher costs associated with providing care in rural areas are adequately taken into account.

The Balanced Budget Refinement Act of 1999 (BBRA) mandated that MedPAC examine whether rural areas should be exempt from the prospective payment system (PPS) for home health services. Advocates and policymakers have been concerned that the PPS does not adequately account for the costs associated with providing care in rural areas. They also have been concerned about the effects of closures of home health agencies in rural areas. The new system has not been in place long enough to assess its impact using claims and other administrative data from the PPS, but historical differences in the use of home health care in urban and rural areas provide no reason to think that rural areas would be affected differently by the components of the PPS. The Commission concludes that the new PPS should work equally well in both urban and rural settings and that closures of home health agencies have not affected access to home health services for rural beneficiaries.

Evolving to the current system

Rapid growth in home health spending in the early 1990s gave impetus to substantial changes in the home health payment system. Before 1998, home health was paid under a cost-based system with little incentive for efficiency; Medicare spending for home health grew to $17.5 billion in 1997, compared with $7 billion in 1992. The Balanced Budget Act of 1997 (BBA) required the Health Care Financing Administration (HCFA) to develop a prospective payment system to replace the cost-based system and control spending.

Also as required under the BBA, HCFA began an interim payment system (IPS) in 1997 as a transition to prospective payment. The IPS paid agencies based on their costs, subject to aggregate limits on per-visit or per-beneficiary costs. It was assumed that agencies would serve both low- and high-cost beneficiaries to keep costs under the limits. However, some evidence suggests that beneficiaries with needs for high-intensity or chronic care may have had difficulties in obtaining care. Some agencies reported that they no longer accepted, or were more likely to discharge earlier, patients whose care they expected to be expensive (Stoner et al. 1999). After 1997, spending fell further than anticipated; by 1999, Medicare spending for home health had fallen to $9.7 billion.

The PPS replaced the IPS in October 2000. Though movement from the IPS to the PPS has generally been viewed as a positive step, advocates and policymakers have been concerned about access to home health services. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) increased payments for home health care by restoring the full market basket update to the base payment amount in 2001 and by delaying for one year a scheduled 15 percent reduction in Medicare home health spending.

To protect rural areas, the BIPA also increased payments for home health services in rural areas by 10 percent for a two-year period beginning April 1, 2001.[1] Because the 10 percent increase is not subject to the budget neutrality provision that applies to the PPS generally, it provides new funding. Home health care provided by either urban or rural home health agencies to beneficiaries living in non-metropolitan areas is eligible for this rate increase.

Components of the prospective payment system

Four components make up the PPS: the unit of payment, the base payment amount, the case-mix adjustment, and the wage index adjustment. Adjustments for several other special circumstances, such as outliers, can also modify the payment. We examined the components of the PPS to determine whether the system can be applied in rural areas as well as it can in urban ones. We assessed whether, for rural areas:

- the unit of payment is appropriate,
- the base payment adequately accounts for the efficient costs of providing care, and
- the case-mix adjustment captures the relative resource needs of beneficiaries.

We do not discuss the wage index in this chapter. The PPS payment comprises a labor and non-labor portion; the labor portion—77 percent—is adjusted by the hospital wage index to account for geographic differences in the cost of labor-related inputs to home health services. The index might not accurately reflect the cost of labor for home health providers, however, because HCFA's method for calculating the wage index does not discriminate between differences in labor costs due to differences in price and those differences due to the mix of inputs. This problem, which affects wage adjustments for all providers, is addressed in more detail in Chapter 4 and in the Commission's March 2001 report to the Congress (MedPAC 2001).

Unit of payment

An appropriate unit of payment for home health services should be short enough for reliable predictions of resource use over its span and long enough to allow agencies to manage care effectively within an episode of care. Under the home health PPS, the unit of payment is a 60-day episode of care that includes five or more home health visits. The 60-day episode was chosen after HCFA tested two lengths for the unit of payment: one visit and a 120-day episode.

One visit was deemed too small a unit for the home health prospective payment system. An evaluation of HCFA's

1 For most services provided in facilities, the location of the facility providing the service determines the local area adjustment to payment. For home health services, the local area adjustment is determined by the location of the beneficiary receiving the service.

demonstration of prospective per-visit payments found no compelling evidence of an impact on agency cost per visit or the volume of home health services (Phillips et al. 1994). Agencies shortened the length of visits without harming quality of care, but there was no significant change in the management of care (Bishop et al. 1996). The system did not control costs.

A 120-day episode was more effective than one visit in controlling costs but was deemed too long. Under HCFA's demonstration of prospective 120-day episodes of care, cost per episode declined without an increase in the use of other Medicare services. Agencies reported improvements in their management of the care within the episode, decreasing total volume of care without a negative impact on quality or outcomes. However, most beneficiaries were discharged weeks or months before the end of the 120-day episode; about 60 percent were discharged in 60 or fewer days. Furthermore, the 120-day episode did not match the periods already established for key administrative tasks for the home health agencies: agencies develop plans of care for 60-day periods and physicians must re-certify the need for home health services every two months.

The 60-day episode was selected to meet the cost control objectives of the Congress while coordinating with administrative time frames. Agencies might change visit lengths, but we would not expect this to harm the quality of care. Key management improvements used under the 120-day episode—such as better review of the initial plan of treatment, tailoring care by diagnosis, and focusing on patient rehabilitation—are also expected under 60-day episodes. Sixty-day episodes also correspond more closely to most observed lengths of stay under HCFA's demonstration. Thus, shortening the episode length from 120 days to 60 days relieves some cash flow pressure by reducing the lag between rendering services, closing the claim, and receiving full reimbursement.[2]

None of the strengths or weaknesses of the unit of payment's duration is unique to urban or rural home health. Agencies in both urban and rural areas can use the flexibility of episode payment to change the management of care. Historically, rural agencies have had significantly longer lengths of stay than urban ones (Goldberg and Schmitz 1994). But because beneficiaries may receive an unlimited number of episodes of care—as long as they remain eligible for home health care—differences in length of stay should not be a problem. Further, outlier payments are made for cases with very high costs within a 60-day episode. As PPS data become available, the volume of care within urban and rural patients' episodes should be monitored.

Amount of base payment

An appropriate base payment amount should cover the costs that an efficient provider would incur in providing care. For each episode of care, the PPS base payment amount includes costs of visits, supplies, outpatient therapy that was not previously considered as part of the home health benefit, and patient assessment. If rural providers faced higher costs per episode than the national average because of circumstances beyond their control, then the base payment would not be adequate for the beneficiaries they serve.

We found two factors that could differentiate the costs of providing care in urban and rural areas: travel and volume of services. Traveling to serve sparse or remote populations may increase the costs of providing services to rural beneficiaries. Rural providers also may be at a cost disadvantage if their low volume of services provided does not permit them to spread fixed costs over a large number of episodes.

Examining travel costs is difficult because the data reported to HCFA are unreliable and the calculation of travel costs varies from agency to agency. We have been advised against the use of these data by several researchers, including those at HCFA.

Moreover, some urban home health agencies (HHAs) may face higher-than-average travel costs as well. Some urban agencies may incur costs for safety measures such as escorts to serve unsafe neighborhoods. The need for safety measures could reasonably be considered part of the cost of travel in an urban area and could be as significant a cost factor as distance is in a rural area.

Rural areas have small, sometimes sparse populations, so that many rural HHAs operate at low volumes. More than 50 percent of agencies in the most rural counties delivered fewer than 5,000 visits in a year (Franco and Leon 2000); only 20 percent of urban home health agencies had volumes that low. Most urban HHAs delivered between 5,000 and 30,000 visits, and 30 percent delivered more than 30,000 visits annually. In contrast, only 12 percent of HHAs in the most rural counties delivered more than 30,000 visits. Because rural HHAs generally deliver fewer visits than their urban counterparts, their low volume could lead to higher per episode costs.

Differences in costs also could arise if small agencies lack the sophisticated management and patient care procedures of larger agencies (Goldberg and Schmitz 1994). Small agencies may not have access to the same range of professionals to manage specific tasks, such as a wound care specialist or a therapist dedicated to patient assessment. Small agencies also may not be able to invest in new technologies, which could also lower costs. If small agencies cannot make the same changes in the management of care that large agencies can, then even efficient small providers may have higher per-unit costs than larger ones. This is not unique to rural areas; low-volume agencies in urban areas may face the same cost disadvantages.

2 Agencies are not fully reimbursed for a unit of care until the entire episode has elapsed. Because any unit of payment longer than one visit would delay the close of the claim for some beneficiaries whose length of stay is less than the episode length, HCFA has also split the payment so that much of the total episode payment is available before the entire episode has elapsed.

The case-mix adjustment

An appropriate case-mix system should account for predictable differences in costs due to the characteristics of the patients. The case-mix system for the home health PPS might not account adequately for rural costs because payments are based in part on the services that patients use. Urban and rural home health patients receive different services even though their diagnoses and functional limitations are similar.

In the home health PPS, an 80-category case-mix classification system adjusts the base payment rate. The categories—called home health resource groups or HHRGs—are based on three factors: patients' clinical status, functional status, and use of services. Patients' clinical status largely depends on their diagnosis. Functional status depends on their ability to perform a select set of activities of daily living. Service use is determined by discharge from a hospital or post-acute care facility before the home health episode and/or the receipt of at least 10 therapy visits during the episode.

According to recent claims data, urban and rural providers treat a clinically similar mix of patients. For five high-cost and common diagnoses—Alzheimer's disease, congestive heart failure, diabetes, stroke, and wound—the proportion of admissions by diagnosis was the same for urban and rural agencies under cost-based reimbursement in 1997 (Table 6-1). Although the proportion of admissions by diagnosis changed after the implementation of the IPS in 1998, the rural and urban proportions were still similar to each other.

Home health patients in urban and rural areas had similar functional status as well (Schlenker et al. 2000). Although upon admission, rural patients were somewhat more limited in function than urban ones, similarities appeared in a cross-sectional sample. The admission sample included more post-acute, short-stay patients than did a cross-sectional sample that included all patients receiving home health services at a given point in time. Cross-sectional samples showed no significant difference in either individual or aggregate measures of patient's ability to bathe, eat, and perform other activities of daily living.

Despite similarities in diagnoses and functional status, rural and urban patients have different service use. Service use is both the total number of visits and the mix of therapy visits (physical, occupational, or speech therapy) and non-therapy visits (home health aide, skilled nurse, or medical social worker). In 1999, under the interim cost-based system, rural patients of home health received more total visits than their urban counterparts but fewer rural patients received therapy visits (Table 6-2).

The difference between rural and urban therapy use is in the number of therapy patients per home health patient, not in the amount of therapy used. Though rural home health patients were less likely to receive therapy than urban ones, those who received therapy used the same amount of therapy as urban patients (Sutton 1999). Given that rural and urban home health patients are functionally and clinically similar, it appears that some rural beneficiaries who would receive therapy if they were in an urban area do not receive any therapy in a rural area.

The population of rural therapy patients might include only those with moderate or heavy therapy needs while the population of urban therapy patients includes those with light therapy needs. If this were the case, we would expect average rural therapy use per therapy patient to be higher than urban use, but we instead observe that rural therapy use per therapy patient is the same as urban. Therapy use per home health patient is lower in rural areas but the number of total visits per patient (therapy and non-therapy) is higher. Because rural home health patients use less therapy but more visits than their diagnostically and clinically similar urban counterparts, the HHRGs may not account adequately for the non-therapy costs of caring for some rural home health users. (For further discussion of rural use rates, see Chapter 1.)

The use of therapy can substantially increase the total reimbursement for an episode. For example, if the only difference between an urban and a rural patient with moderate clinical and functional conditions is the receipt of 10 hours of therapy, then the case-mixed base payment would be twice as high for the urban beneficiary who received therapy.

Limited data from a model that was used to develop the case-mix adjustment suggest that rural agencies will not be disadvantaged by the case-mix system (Goldberg et al. 1999). This research included data from 26 rural agencies in 8 states under the IPS in 1997 and 1998. Clinical status, functional status, and

TABLE 6-1 **Total admissions to home health, by diagnosis, urban and rural agencies**

	1997		1998	
Diagnosis	**Urban**	**Rural**	**Urban**	**Rural**
Alzheimer's disease	2%	2%	2%	2%
Congestive heart failure	16	18	17	18
Diabetes	21	22	21	22
Stroke	10	10	10	10
Wound	11	10	6	5

Note: Rural home health agencies are located in non-metropolitan areas, as defined by the U.S. Office of Management and Budget.

Source: MedPAC analysis of the 1997 and 1998 HCFA standard analytic file claims data

TABLE 6-2

Home health visits and therapy visits, by location of patient's county of residence, 1999

Location of county (UIC)	Annual total visits per patient	Therapy visits as percent of all home health visits
Urban, in an MSA (1, 2)	37.5	18%
Rural		
Adjacent to an MSA and includes a town with at least 10,000 people (3, 5)	41.3	14
Adjacent to an MSA but does not include a town with at least 10,000 people (4, 6)	42.4	13
Not adjacent to an MSA but includes a town with at least 10,000 people (7)	41.2	13
Not adjacent to an MSA but includes a town with between 2,500 and 10,000 people (8)	43.9	11
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	43.8	12
All counties	38.8	17

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

Source: MedPAC analysis of the 1999 HCFA standard analytical file claims data

service use were measured, and episodes were constructed. In the model, resource use by HHRG tended to be slightly overstated for rural agencies. However, more than half of the HHRGs contained fewer than 50 cases. The small number of cases in many HHRGs coupled with the narrow sample of rural agencies suggests caution in generalizing the results to all HHRGs for all agencies in rural areas.

In any case, patterns of care observed before the implementation of the PPS may not predict use under prospective payment. Incentives in the PPS are likely to change the mix of services provided by HHAs. The home health service mix has changed in recent years: 20 percent more home health users received therapy services in 1999 than in 1996 (GAO 2000).

Home health agency closures

Many of those who seek to protect access to home health in rural areas cite agency closures as a source of their concern.

Fewer HHAs serve Medicare beneficiaries now than in 1997. However, closures were more prominent in urban areas; the number of HHAs fell by 14 percent in urban areas between October 1997 and January 1999, compared with a 9 percent decrease in rural areas.

Counting the number of Medicare HHAs may be misleading because HCFA tracks parent agencies, not branches. For example, in a recent study, the General Accounting Office (GAO) interviewed more than 100 stakeholders in 34 rural counties that had experienced closures and found as many as 3 HHAs in counties that HCFA data identified as having none (GAO 1999). HHAs that remained had changed their practice patterns in response to the IPS. Some reported that they screened for potentially complex or chronic patients, which may have created difficulties and delays for placing some beneficiaries in care. Nonetheless, GAO found that despite closures and changes in practice patterns, access generally was not impaired. Even in counties where HCFA data indicated that the sole HHA had closed, hospital discharge planners and managers of nearby HHAs concluded that access was not a problem because branch agencies or agencies in neighboring counties were still providing services.

MedPAC's examination of home health use in 1999 also shows that many patients in rural areas did not rely upon agencies in rural areas to provide service (Table 6-3). For example, urban HHAs provided one-third of all visits to beneficiaries in rural counties adjacent to an urban county. Urban HHAs even provided 10 percent of

TABLE 6-3

Home health visits, by location of patient's county of residence and location of agency, 1999

	Location of agency	
Location of patient's county of residence (UIC)	Rural	MSA
Urban, in an MSA (1, 2)	3%	97%
Rural		
Adjacent to an MSA (3, 4, 5, 6)	67	33
Not adjacent to an MSA but includes a town with at least 2,500 people (7, 8)	90	10
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	90	10

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the United States Office of Management and Budget).

Source: MedPAC analysis of the 1999 HCFA standard analytical file claims data

TABLE 6-4

Number of home health agencies, by ownership of facility, 1997 and 2001

Ownership	1997	2001	Percent change
Total	10,498	7,121	−32%
Visiting nurse association	556	432	−22
Government and voluntary	1,192	950	−20
Hospital-based	2,695	2,138	−21
SNF-based	199	150	−25
Freestanding, other	5,856	3,451	−41

Note: SNF (skilled nursing facility)

Source: HCFA, Medicare Decision Support System, Office of Strategic Planning

all visits delivered in the most rural areas. Thus, the effects of rural agency closures might have been mitigated by the availability of care from agencies outside of the rural area for some rural beneficiaries.

One reason that national closures affected rural areas less than urban areas is that patients in rural areas rely more on government and voluntary agencies and less on freestanding agencies than their urban counterparts. Between 1997 and 2001, more than 70 percent of the agencies that closed were freestanding (Table 6-4).

Some observers have suggested that having only a small number of agencies per Medicare beneficiary in an area may impair access, but there is no evidence to suggest that this is a meaningful measure of access. Furthermore, the national distribution of HHAs does not suggest that rural areas are at a disadvantage; about one-third of all HHAs but only one-fourth of beneficiaries are located outside of urban areas (Franco and Leon 2000).

RECOMMENDATION 6A

The Congress should not exempt rural home health services from the prospective payment system.

No component of the PPS—unit of payment, amount of base payment, or case mix adjustment—should be less adequate for rural home health services than for urban. The current payment system, especially with the 10 percent increase in payments provided under the BIPA, should ensure adequate payment and allow assessment of the impact of the PPS and whether any changes may be appropriate.

Need for better data

Significant data limitations restrict our ability to fully assess differences in the costs of providing care to urban and rural patients. Chief among these limitations is the lack of data under the new payment system. According to HCFA, cost report data from the PPS will not be available before September 2003. However, while cost report data will be essential for assessing and maintaining adequate payments under the PPS, their quality may decline unless some improvements are made.

Home health intermediaries—the organizations that process claims—report challenges for cost reporting. Many HHAs are small and lack staff to dedicate to cost reporting. Further, definitions of key costs, how to document them, and how to allocate them are unclear. Costs not directly related to patient care—such as costs for travel or for providing escorts to employees who see clients in unsafe neighborhoods—seem to be especially difficult to allocate. The intermediaries with whom we spoke believed that declining budgets for education and audits also will contribute to problems with the quality of cost data.

The quality of cost data may decline further under PPS because the new system moves payment away from agencies' reported costs toward a nationally determined prospective rate. Because agencies' payments are no longer tied to their reported costs, the incentive to report their own costs accurately has been reduced.

Reliable cost data are important in a PPS to assess the adequacy of payments. Cost report data will be needed not only to assess the payment system's ability to account for potential differences between urban and rural home health but also to ensure that the system reflects appropriate changes in costs. Given the need for accurate cost report data, we recommend that:

RECOMMENDATION 6B

The Secretary should study a sample of home health providers:

- **to evaluate the impact of prospective payment on home health in rural areas,**
- **to evaluate costs that may affect the adequacy of prospective payments, and**
- **to find ways to improve all cost reports.**

Offsetting a potential decline in the quality of cost data by increasing the audit rate could require substantial new resources and the development of new and meaningful penalties for inaccurate data. However, it may be difficult to generate sufficient incentives to report accurate data through increasing audits without burdening providers and making Medicare's relationship with them unacceptably punitive. Furthermore, to the extent that cost data are inaccurate due to a lack of clear definitions and requirements, penalizing providers who attempt to comply would be inappropriate.

Instead, HCFA could create a pool of providers, perhaps similar to the group whose cost reports were thoroughly audited and used to make the PPS. With some statistical adjustment, that group constituted a nationally representative sample of agencies. It may be desirable to increase the number of rural providers in the pool to enable distinctions among rural areas, especially to examine isolated rural providers. It may also be desirable to focus attention on travel costs in both rural and urban settings.

New and substantial resources would be needed to support continuing, comprehensive audits of cost reports from the pool. An incentive for agencies to join the highly audited group may be needed if the group is composed of volunteers. However, such additional spending may be worthwhile if it produces timely and accurate cost data and reveals ways to target resources for improving the quality of all home health cost data from all agencies. Input from members of the group could also inform efforts to clarify and streamline the cost reports or to consider the incorporation of new costs, such as the use of telehealth.

Devoting resources to the improvement of cost data should not be allowed to decrease the attention given to utilization data. Utilization data will continue to be important for monitoring access to home health services. ■

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CHAPTER 7

Bringing Medicare+Choice to rural America

CHAPTER 7

Bringing Medicare+Choice to rural America

In this chapter

- Little progress to date
- Why are Medicare+Choice coordinated-care plans unlikely to enter rural areas?
- The private fee-for-service option
- Other options
- Conclusion

Why are Medicare+Choice benefit packages that include extras such as low cost sharing and prescription drugs available to beneficiaries in some urban areas but not widely available to those in rural areas? Despite efforts of the Congress to attract Medicare+Choice managed-care plans to rural areas by revising the payment structure, there are still few managed-care plans available in rural areas, and the benefit packages they bring are not as generous as those offered in some urban areas. The basic market characteristics shared by many rural areas—including a limited number of providers and a dispersed population—will likely continue to frustrate these efforts. A non-network, private fee-for-service option has become available in some rural areas but, like other options discussed in this chapter, is not likely to generate sufficient efficiencies or provider discounts to bring generous benefit packages to rural beneficiaries without increasing Medicare program costs.

Rural Medicare beneficiaries and their representatives in the Congress want to bring to rural areas the generous benefits packages (including prescription drug coverage and low cost sharing) and low premiums enjoyed by beneficiaries in some urban areas who have enrolled in Medicare managed-care plans. Two features of the Medicare+Choice (M+C) program enacted as part of the Balanced Budget Act of 1997 (BBA) were designed to bring such packages to rural areas (see text box). First, payments in lower-paid areas—which includes most rural areas—were increased by creating a floor rate, which has been increased substantially in subsequent legislation and is $475 per month today. Second, plans other than health maintenance organizations (HMOs) were allowed to participate in the program.

Little progress to date

Thus far, M+C plans offering generous benefit packages at little or no cost to beneficiaries have not entered rural areas. In this chapter, we explain why coordinated-care plans (plans offered by HMOs, preferred provider organizations, or provider sponsored organizations) are unlikely to enter rural areas under most conditions and, if they did, why they would be unlikely to garner the efficiencies and provider discounts necessary to fund generous benefit packages. We also discuss the only other option in the M+C program that is currently available to beneficiaries—a private fee-for-service plan. This type of plan is becoming more widely available in rural areas and presents some unique policy challenges for the Medicare program when combined with the increased floor payment rates resulting from recent legislation. Finally, we briefly describe some other options for bringing more benefits to rural areas at low cost to beneficiaries.

HMO availability for Medicare beneficiaries

Although the M+C program allows several kinds of coordinated care plans to be offered, only M+C HMOs (and one M+C provider sponsored organization plan, which is included in the analysis) are offered. Because M+C HMOs have provided the generous benefits in some urban areas that are desired in rural areas, it is important to understand what determines their availability.

The availability of M+C HMOs varies over two dimensions (Table 7-1). First, availability decreases as the degree of urban influence decreases. As one moves from a metropolitan statistical area (MSA) containing more than 1 million people to rural areas not adjacent to an MSA, the availability of M+C HMO plans decreases for any given level of payment. For example, 48 percent of beneficiaries living in large MSAs with a payment rate at the floor level of $401.61 for 2000 had at least one M+C HMO plan available, compared with only 4 percent of beneficiaries in the most rural counties. (In rural counties, the plan is usually an extension of an urban-based HMO; only two plans have completely rural service areas.) Second, availability increases with payment level at all degrees of urban influence except for the most rural (possibly because there are very few counties in this category with payment rates above the floor). For example, in MSAs with a population of less than 1 million, availability increases from 21 percent for counties at the floor level to 94 percent for counties at the highest payment level.

For most of rural America, the M+C payment rate is at the floor (Figure 7-1). Even though the floor represented an increase of over 100 percent from 1997 fee-for-service spending for some counties,

The Medicare+Choice program

The Medicare+Choice (M+C) program was created by the Balanced Budget Act of 1997. It allows private-sector organizations to provide medical coverage to Medicare beneficiaries in exchange for a monthly payment from the Medicare program. The M+C program replaced the risk-health maintenance organization (risk-HMO) program established under the Tax Equity and Fiscal Responsibility Act of 1982 and substantially changed the existing payment provisions. The link between capitation payments to plans and local fee-for-service spending in the traditional Medicare program was loosened by moving toward a blend of local and national spending. Payments were to be the maximum of: the blended rate, a floor rate, or a 2 percent minimum increase from the previous year's rate. The intent was to decrease the disparity in payment rates between different markets. The M+C program also added non-HMO options, including preferred provider organization plans, provider sponsored organization plans, private fee-for-service plans, and high-deductible plans with medical savings accounts. Its intent was to create more options for more beneficiaries in more areas, including rural areas and lower-paid urban areas.

In continued efforts to increase the availability of M+C plans, the Balanced Budget Refinement Act of 1999 created bonus payments for plans that enter counties in which no other M+C plan is operating. Such plans receive a 5 percent bonus for the first year and a 3 percent bonus during the second year. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 then increased monthly floor payments to the current $475 and introduced a new floor of $525 a month for counties in metropolitan statistical areas with populations greater than 250,000.■

TABLE 7-1

Percentage of beneficiaries with any Medicare+Choice health maintenance organization in their county in 2001, by location of county and 2000 payment rate

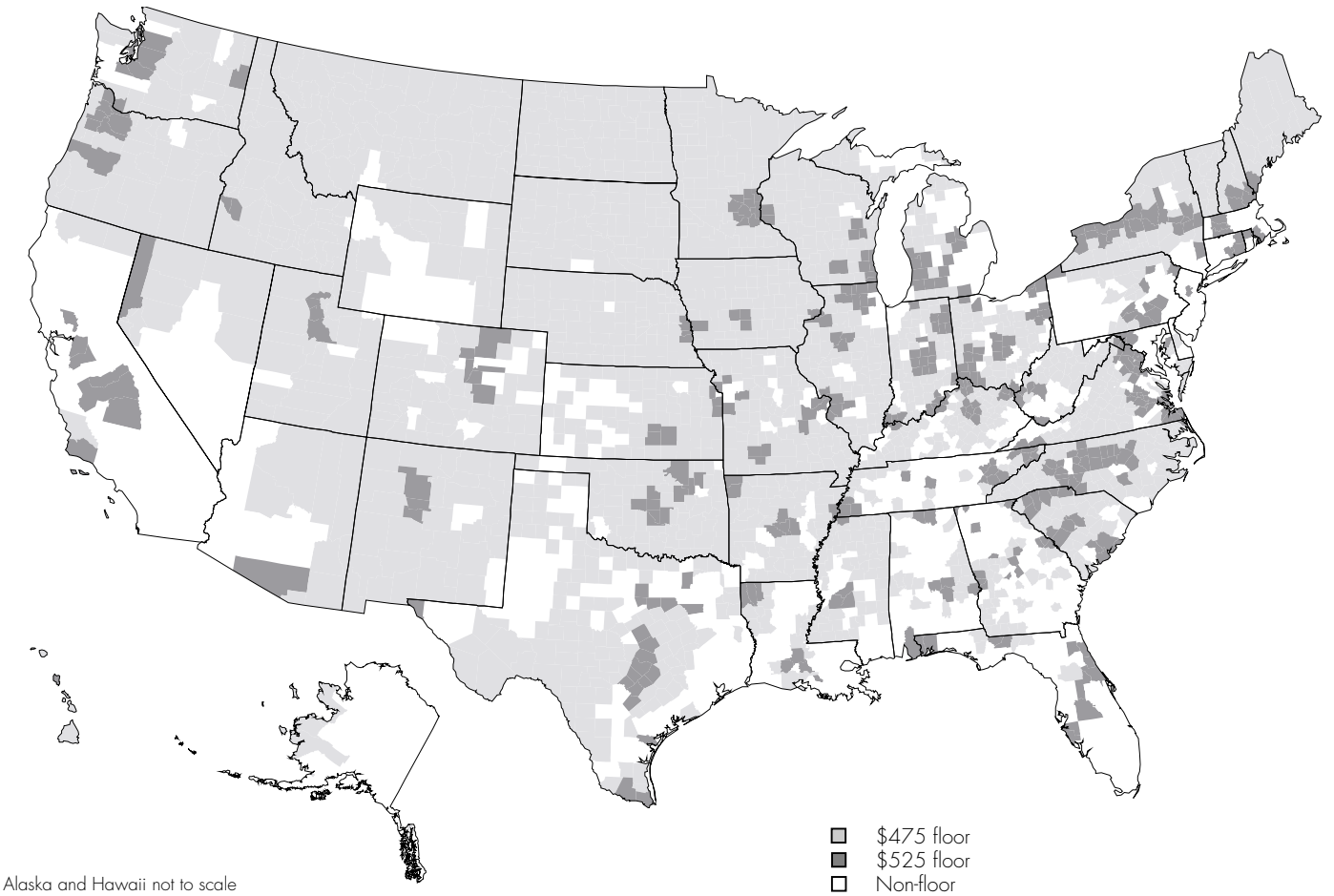
Location of county (UIC)	Beneficiaries (millions)	Medicare+Choice 2000 monthly payment rate: $401.61 (floor)	$401.62-$449.99	$450.00-$549.99	$550+	All
In an MSA that includes at least one million people (1)	17.6	48%	76%	88%	100%	94%
In an MSA that does not include at least one million people (2)	12.3	21	37	65	94	57
Adjacent to an MSA and includes a town with at least 10,000 people (3,5)	2.4	14	23	38	41	28
Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)	2.8	11	11	23	38	16
Not adjacent to an MSA (7,8,9)	4.2	4	3	11	1	5

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

Source: MedPAC analysis of Medicare Compare data from HCFA website, February 2001.

FIGURE 7-1

2001 Medicare+Choice payment rates



only 4 percent of beneficiaries in rural floor counties not adjacent to an MSA had an M+C HMO available in 2000. The effect on availability of M+C HMOs from the latest increase in the floor, to $475 per month, has been limited thus far.

Lack of generous benefit packages

Where M+C HMOs are available in rural areas, they do not provide the generous benefit packages and low premiums that accompany M+C HMOs in some urban areas (Table 7-2).

The pattern of benefits shows the same trend as plan availability. Even when we only look at beneficiaries who have a M+C HMO available, the more rural the area the less likely beneficiaries are to have generous benefit packages. For example, zero-premium plans, available to 70 percent of beneficiaries in large MSAs who have plans they can join, are only available to 6 percent of the small number of beneficiaries in the most rural areas who have HMOs they can join.

The enrollment picture reflects this lack of benefits in rural areas, even where M+C HMOs are available. Only about 5 percent of those beneficiaries living in rural areas not adjacent to MSAs who could join are members of M+C HMOs—about 11,000 beneficiaries. In large MSAs, over 25 percent of eligible beneficiaries join. The lower enrollment rate in rural areas may reflect the paucity of benefit packages HMOs offer and the higher premiums they charge. It could also reflect the difficulty of marketing in rural areas and the lack of established plans. For M+C HMOs to successfully market themselves to beneficiaries, they must offer enough extra benefits to make it worthwhile for beneficiaries to give up free choice of providers—which is difficult to do in most rural areas.

Although the generous packages offered by M+C HMOs in urban areas in the past may not be as generous today (for example, 75 percent of urban beneficiaries had access to zero-premium plans in 1999, versus 50 percent in 2001), the underlying problem of equity that the BBA and other legislation have sought to rectify remains; beneficiaries in some urban areas have access to M+C HMOs that make extra benefits available for small or no premiums, and beneficiaries in rural areas generally do not.

TABLE 7-2

For beneficiaries with a health maintenance organization available, prescription drug coverage and premiums in 2001, by location of county

Location of county (UIC)	Percent of beneficiaries with: Prescription drug plan available	Percent of beneficiaries with: Zero premium plan available	Average monthly minimum premium
In an MSA that includes at least one million people (1)	91%	70%	$12
In an MSA that does not include at least one million people (2)	73	50	24
Adjacent to an MSA and includes a town with at least 10,000 people (3,5)	59	36	30
Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)	58	22	33
Not adjacent to an MSA (7,8,9)	64	6	40

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture), MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget).

Source: MedPAC analysis of Medicare Compare data from HCFA website, February 2001.

Why are Medicare+Choice coordinated-care plans unlikely to enter rural areas?

Three factors make it unlikely that M+C coordinated-care plans, which depend on networks of participating providers, will enter rural areas: the difficulty and economics of forming provider networks, the characteristics of the beneficiary population, and patterns of health care use in an area. In addition, the relation of the rates the M+C program pays plans to fee-for-service spending in the traditional Medicare program must be considered, because for an M+C plan to succeed it has to provide some beneficiaries a preferable alternative to the traditional program and available supplemental (medigap) arrangements.

Network formation

Any network managed care plan considering entering a health care market must determine whether enough providers are available to form a network that will meet regulatory guidelines (such as distance and time to closest provider, 24-hour coverage, and the range of medically necessary services offered in network), respond to consumer preferences, and participate on economic terms acceptable to the plan.

Forming networks that meet state (or in the case of M+C plans, Health Care Financing Administration) regulations is difficult in some areas. For example, in rural areas not adjacent to metropolitan areas, there are fewer than 6 primary care physicians per 10,000 people (Geyman et al. 2001). Meeting local consumer preferences may be a problem for urban plans wanting to extend service to bordering rural areas. Urban-based providers might not be acceptable to some rural beneficiaries who want to use their local providers.

Networks in urban areas are often formed using intermediate entities, such as independent practice associations or large

group practices (Mathematica 2000). These entities, which can accept risk in the form of capitated payments and help the plans manage care, are not as commonly available in rural areas as in urban areas. As a result, HMOs in rural areas commonly use fee-for-service to reimburse physicians rather than capitated payments, making it more difficult to manage care so that it can be delivered more efficiently (Christianson et al. 1997). In addition, if providers are not already organized, networks may have to be built provider by provider, which can increase the cost and effort to enter a market.

In areas with a sufficient supply of providers to generate competition, managed care plans can sometimes negotiate discounted prices for services by proffering higher patient volumes in exchange for lower prices. Rural areas however, often have few providers. In many counties there is only one hospital, which will have little incentive to negotiate discounted rates with an M+C plan because it will serve all the patients anyway at Medicare fee-for-service rates. This point is illustrated by private payments to rural hospitals. In 1999, private payments were 134 percent of costs for rural hospitals, compared with 113 percent of costs in urban settings, where more provider competition exists (MedPAC 2001).

The same logic applies to physicians. In counties with few physicians it is unlikely that managed care plans could deliver a significantly higher volume of patients than the physicians are already seeing, or that those physicians would accept lower payment even if a higher volume of patients was delivered.[1]

In rural areas, forming economically feasible networks that have adequate access is not just a problem for HMOs operating in Medicare. In the Medicaid program, in which membership in managed care can be made mandatory, HMOs are not common in rural areas.[2] In commercial plans, HMO penetration decreases as distance from urban areas increases. In the Federal Employees Health Benefits program (FEHB), HMOs are not available in many rural areas; in eight predominately rural states there are no HMOs available in any county (OPM 2000).[3]

Population characteristics

Two characteristics of rural populations influence the entry of managed care plans: density and income. Rural areas have low population density, which makes it difficult to enroll a large number of members in a compact geographic area. A large membership is attractive to managed care plans because it enables plans to spread their fixed costs. For plans to attain large membership levels where population density is low, they either must cover large geographic areas (with all the complication and cost that entails for network formation) or extend coverage from a higher-density area. A large membership also absorbs the risk of some members having large expenses. If the plan population is too small, the insurance risk, or the cost of defraying it through reinsurance, becomes very high.

Medicare beneficiaries in rural areas have lower incomes than those in urban areas. Although lower-income beneficiaries might want to join plans with lower cost sharing than traditional Medicare, they might not be able to pay premiums to do it. Evidence suggests that higher incomes in rural areas are linked to higher Medicare managed care penetration (Moscovice et al. 1997), possibly because plans often charge premiums in rural areas (Table 7-2). If premiums were lowered or eliminated this relationship might change.

Finally, the presence of large employers is often associated with managed care success because they provide ease of marketing and a source of money for premiums. Most rural areas do not have large employers or associated retiree populations. A dispersed, relatively low-income population with no ready source for marketing organization or premium support is unlikely to encourage managed care entry.

Use of health care

Higher use of health care under fee-for-service allows coordinated care plans more scope to realize efficiency gains from either decreasing the amount or changing the mix of health care provided. There is no evidence of widespread high use in rural areas (see analysis of use rates in Chapter 1); hence, plans have less opportunity for efficiency gains and little incentive to enter those areas. In addition, in counties where beneficiaries underuse care (due to, for example, low beneficiary income and little supplemental coverage), pent-up demand may lead to an initial spike and a permanent increase in use when beneficiaries switch from traditional fee-for-service to M+C HMOs with lower cost sharing for services. This increase in use has contributed to the withdrawal of some M+C HMOs from rural areas in the past and has discouraged the entry of others, according to an expert panel on the M+C program convened by MedPAC.[4]

1 On average, rural physicians work longer hours and see more patients than those in urban areas do (Geyman et al. 2001).

2 In Medicaid, primary care case management (PCCM) is the prevalent mode of managed care in rural areas—over 60 percent of rural counties participating in Medicaid managed care used PCCM in 1997 (Slifkin et al. 1998). Primary care case management pays primary care providers a small amount per member per month in addition to any charges for patient encounters, which are reimbursed under fee-for-service rules. Where a choice is available between capitated plans and PCCM, Medicaid recipients overwhelmingly choose PCCM: for example, 61 percent chose PCCM in Iowa and 98 percent chose PCCM in Virginia (Felt-Lisk et al. 1999). The primary care case management model would, however, be unlikely to generate generous extra benefits for Medicare beneficiaries. There are no provider discounts and there is no mechanism to directly reward the primary care provider for efficiency gains; hence, the provider could not translate them to increased benefits for beneficiaries.

3 States without FEHB program HMOs are Alaska, Arkansas, Maine, Montana, Nebraska, New Hampshire, South Dakota, and Wyoming. In other states, such as Idaho, Louisiana, Mississippi, Utah, and Vermont, FEHB program HMOs are available only in a few counties.

4 MedPAC expert panel on M+C plan participation and withdrawals, August 31, 1999.

The relation of Medicare+Choice payment rates to fee-for-service spending

We have seen that several factors discourage network managed care plans from entering rural areas. For M+C HMOs in particular, the relation of M+C payment rates to spending in traditional Medicare is also important. The Commission looked first at M+C HMO entry under conditions where M+C payment rates are essentially equal to risk-adjusted Medicare spending on beneficiaries in the traditional fee-for-service program. We then looked at the situation in rural areas today, where M+C payment rates are frequently much higher than expected spending in traditional fee-for-service.

If Medicare+Choice payments are similar to fee-for-service spending

As discussed in our March 2001 report, the Commission believes that payments to M+C plans should not stray far from risk-adjusted Medicare fee-for-service (FFS) spending in a local market area because the market distortions that will result from disparate payments are bad for the program and beneficiaries.[5] However, if payments in rural areas are close to FFS spending, coordinated-care plans will not enter rural areas because efficiency gains will not outweigh the plan's additional marketing and administrative costs. In high-use, high-payment areas, managed care plans can be more efficient than FFS if they can decrease the use of health care or change the mix of services. Plans also may be able to use their market power to extract provider discounts. The literature shows no evidence of overuse of health care in rural areas, so it is unlikely that use can be substantially decreased and there may be fewer opportunities to shift care to lower-cost settings. In addition, if there is no competition among providers, no provider discounts can be expected by managed care firms. If no efficiency will be gained nor discounts extracted, no revenue will be available to fund extra benefits. (Assuming that payments are fully risk adjusted, there is no advantage from favorable selection either.) If a plan cannot offer extra benefits (or even cover its administrative and marketing costs) it will not attract customers and will either not enter a market, or not stay in a market if it does enter.

If Medicare+Choice payments are greater than fee-for-service spending

As we recommended in our March 2001 report, the variation in FFS spending that exists among different parts of the country and whether it is justified should be investigated in its own right, and not addressed through the M+C program. However, M+C payments have been adjusted to decrease payment variation between market areas by substantially increasing payments to rural areas. Thus far, increasing payments to M+C plans in rural areas has not stimulated widespread entry of coordinated care M+C plans, for the reasons stated above. In areas where the non-payment barriers to entry are not as compelling—a commercial network of providers exists, a strong rural provider-based plan is operating, a large local employer supports a managed care plan for its workers and wants its retirees to have access, or M+C plans exist in neighboring urban areas—some entry might eventually be anticipated from higher payments. But in general, the non-payment factors that make it difficult for managed care to succeed in rural areas will not be overcome through reasonable payment increases and increased benefits will not result. This has been amply illustrated by the fact that the number of M+C HMOs in rural areas has not grown despite substantial increases in payment. Increasing payments, however, has given rise to a new type of plan—the private fee-for-service (PFFS) plan.

The private fee-for-service option

In an M+C PFFS plan, the plan takes on the full risk for beneficiaries' health care expenses and in turn receives a monthly payment from the Medicare program just like any other M+C plan. There is no requirement for management of care or for a network of providers. Although the details may vary by plan, under the plan currently offered the providers are intended to be the same as under traditional FFS and will initially be paid the same rates.[6] Under this arrangement, the only gains in efficiency might arise from beneficiary behavior changing because of differences in cost sharing. (Because payments are not yet fully risk adjusted, there may also be gains or losses from risk selection.) If the use of care is the same as in traditional Medicare, then for the plan to provide benefits beyond those in traditional Medicare, either the M+C payment must exceed average FFS spending by an amount greater than the sum of the plan's marketing and administrative costs and profit or the plan must charge a premium for the extra benefits.[7]

If M+C payments were substantially equal to risk-adjusted spending in traditional Medicare, PFFS plans could provide a desirable option to some beneficiaries without presenting a

5 If payments to the M+C sector diverge significantly from spending in the FFS sector, beneficiaries will have reason to migrate to the higher-cost sector if the higher spending is translated into additional benefits. This could result in higher total spending by the Medicare program as a whole. Where payments diverge such that M+C payments are far below FFS spending, M+C plans may leave the program, providing less choice for beneficiaries and leaving them less well off. The Commission recommended that "the Medicare program be financially neutral as to whether beneficiaries enroll in Medicare+Choice plans or in the traditional Medicare program. Therefore, Congress should make Medicare payments for beneficiaries in the two sectors of a local market substantially equal, after accounting for risk." (MedPAC 2001)

6 Providers are informed that their patient is covered under the PFFS plan and what the terms of reimbursement are. Because they will be paid the same as under traditional Medicare, it is anticipated that they will agree to provide services. This willingness has not yet been demonstrated on a wide scale.

7 The original impetus for the PFFS option was to provide benefits not normally available through Medicare even if beneficiaries had to pay the additional cost. This was in response to the fear that as Medicare budgets became more constrained, certain services—particularly for those near the end of life—would be curtailed.

financial quandary for the Medicare program. Where M+C payments are substantially higher than spending in traditional Medicare, however (as is the case in some floor payment counties), Medicare spending will be increased if an M+C option is chosen. For example, in more than 300 rural counties we estimate the 2001 floor payment rate of $475 a month exceeds the spending for the average beneficiary in traditional Medicare in those counties by at least $130 a month, a minimum increase of almost 40 percent.

In some of those counties, the difference between the floor payment and traditional Medicare spending is greater than the premium for a medigap plan that covers most cost sharing for Medicare-covered benefits. Hence, paying an M+C PFFS plan at the floor rate in some rural counties would not appear to be paying the cost of an efficient provider—the basic axiom of Medicare payment policy. Paying PFFS plans at the floor rate is an expensive way to get extra benefits for Medicare beneficiaries in some counties.

Other options

Like its predecessor the Medicare risk-HMO program, the M+C program continues to require that plans absorb all risk for the cost of beneficiaries' health care. This basic tenet of the program could be rethought. One could argue that the Medicare program itself can more efficiently absorb the risk for health care in areas where few beneficiaries are available to spread the risk. This would be of particular importance in rural areas for provider-based plans (which could be HMOs, provider-sponsored organizations, or preferred-provider organizations) where even a plan that enrolled all the local beneficiaries might still have too few enrollees to properly spread the risk of random high-cost occurrences, probably necessitating the purchase of reinsurance with its attendant costs. Larger plans might ameliorate this problem by covering broader geographic areas, although they would then have commensurately more severe network formation problems and costs.

Alternatively, the Medicare program could absorb all the risk and pay plans on a cost basis (as it does for a small number of plans already), or absorb part of the risk and either pay plans a partial capitation amount and some additional amount for each service or pay a split capitation, in which the plan takes on the risk for some services and the program keeps the risk for other services. Each of these approaches has advantages and disadvantages.

Cost HMOs

One way to extend HMOs to rural areas might be to reconsider the cost HMO model. Cost HMOs were the original use of HMOs in the Medicare program and provided a way for beneficiaries who had been in HMOs before they were eligible for Medicare to continue their membership. Under current law, new cost HMOs can no longer be formed and existing cost HMOs must cease operation by 2004. There are 21 cost HMOs open to new members and 10 that no longer accept new members.

The Medicare program pays an HMO's cost for providing basic Medicare benefits, less the actuarial value of traditional FFS cost sharing. If a beneficiary goes to a non-network provider, the beneficiary pays his coinsurance and the Medicare program pays its usual FFS rate. Cost HMOs must charge premiums for benefits beyond the basic Medicare benefit, unlike M+C plans which can offer free extra benefits if payment rates are high enough and efficiencies can be realized. Therefore, they cannot bring the generous benefit packages with low or no premiums desired in rural areas. In addition, experience to date with the cost program suggests that it is more expensive for the Medicare program than is traditional FFS (although not necessarily more expensive than the M+C floor payment), so it is not clear that expanding it would be a good solution even if it were desirable (Sing et al. 1996). Although cost HMOs do differ from M+C plans, they too are unlikely to be a major part of a solution for rural areas.

Partial capitation

Under partial capitation, a plan would be paid less than the full capitation payment but would receive an additional payment for each service rendered. The additional payment would be less than the normal fee-for-service amount such that the total received by the plan would approximate the total capitated payment. Partial capitation has two important benefits. First, it would decrease the risk to plans because they would be reimbursed more for enrollees who use more health care services. Second, partial capitation decreases incentives to stint on services and hence perhaps increases the services enrollees receive. In rural settings, the primary benefit would be the decreased risk held by the plan, which might make it more feasible to offer plans in places with little potential enrollment. However, the decreased risk would be accompanied by a decrease in the capitation payment, making less money available to provide increased benefits even if efficiency gains could be achieved. It is unlikely that the decreased risk could overcome the other factors that discourage managed care participation in rural areas.

Split capitation

Under split capitation, a plan would only bear risk for those services under its control. For example, multi-specialty group practices (to the extent they are available in rural areas) could take full risk for all physician services and no risk for hospital inpatient services. However, it is difficult to see how this could generate a surplus from efficiency that could be used to fund significant additional benefits. Successful Medicaid plans in rural areas that are sponsored by primary care providers depend on limiting referrals to specialists and inpatient admissions to generate surpluses. If plans were not at risk for those services, they could not keep any surpluses generated. Analogously, in Medicare under split capitation there would be little opportunity for efficiency gains by group practices if they were limited to decreasing physician use. The incentive for a group practice to form such a plan would be even less if the group would have benefitted from additional use

of services under traditional FFS because they are the sole providers for that area. In addition, split capitation raises the problem of providers unbundling services and moving the site of service to a venue for which they do not hold risk. For example, a group practice could move a procedure to an outpatient from an office setting.

Conclusion

If the sources of benefits accompanying M+C HMOs in urban areas are efficiency gains and provider discounts, it is unlikely they can be replicated in rural areas through M+C coordinated care plans. If favorable selection is a source as well, proper risk adjustment of payment would preclude that avenue in urban as well as in rural areas. The more likely M+C vehicle for choice in rural areas is the PFFS or other non-network type of plan. The danger for the program, assuming payment floors persist, is that such a plan will cost the program more without proportional increases in benefits for beneficiaries, because of funds needed for marketing and administrative expenses and profits. If several non–managed-care plans compete, profit levels may be trimmed but the administrative and marketing expenses will remain. If the Congress wants more generous benefit packages in rural areas it should address the issue directly, and if a more generous benefit package is made available in rural areas by legislation it must be made available in all areas. Given appropriate risk adjustment, the only sources of savings that can be translated into additional benefits are efficiency gains and provider discounts. Because these sources are not generally available in rural areas, rural beneficiaries are unlikely to see more generous benefits without an explicit or implicit subsidy. ■

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CHAPTER 8

Reviewing the estimated payment update for physician services

CHAPTER 8

Reviewing the estimated payment update for physician services

In this chapter

- Updating payments for 2002
- Replacing the sustainable growth rate system

Medicare payments for physician services are updated annually based on the so-called sustainable growth rate system, which is designed to control overall spending. The Medicare Payment Advisory Commission (MedPAC) believes this system fails to account adequately for changes in the cost of physician services and that policymakers should consider alternatives to the system if policies to control spending are necessary. Accordingly, the Commission recommends replacing the sustainable growth rate system with an update method that better accounts for the cost of providing care. In the meantime, this chapter fulfills MedPAC's requirement to review the Health Care Financing Administration's (HCFA's) preliminary estimate of the update for 2002. Based on this review, the Commission concludes that this estimate of the update appears reasonable. The Commission notes that the update for 2002 may ultimately be lower—perhaps significantly lower—than HCFA's estimate of −0.1 percent, which could raise concerns about the adequacy of payments and beneficiary access to care. Such an update would limit physician spending for the first time since enactment of the sustainable growth rate system, and it also illustrates the Commission's concern that updates under the system are not closely related to the cost of providing physician services.

Medicare's payments for physician services are made according to a fee schedule that assigns relative weights to services, reflecting resource requirements. These weights are adjusted for geographic differences in practice costs and multiplied by a dollar amount—the conversion factor—to determine payments. The conversion factor is updated annually, based on a formula designed to control overall spending over time while accounting for some of the factors that affect the cost of providing care.

Calculating the update to the conversion factor is a two-step process. First, HCFA must estimate the sustainable growth rate (SGR), which is the target rate of growth in spending for physician services and is based on a formula defined in law. The SGR is a function of projected changes in:

- input prices for physician services,[1]
- enrollment in traditional Medicare,
- real gross domestic product (GDP) per capita, and
- spending attributable to changes in law and regulations.

Second, HCFA calculates the update to the conversion factor. This update is a function of:

- the change in input prices for physician services,[2]
- a legislative adjustment required by the Balanced Budget Refinement Act of 1999 (BBRA),[3]
- an adjustment to account for expected changes in physician behavior in response to payment changes,[4] and
- an adjustment factor that increases or decreases the update as needed to align actual spending with target spending determined by the SGR.[5]

Updating payments for 2002

Under the BBRA, the Secretary is required to make publicly available, by March 1 of each year, an estimate of the SGR and conversion factor update for the succeeding year.

HCFA's estimate of the SGR for 2002 is 6.0 percent (Miller 2001b). As discussed below, this estimate appears reasonable, but it is based on limited data. When re-estimating the SGR this fall, HCFA's use of more complete data will be important.

HCFA then calculated a preliminary update for 2002 of −0.1 percent. Pending re-estimation of the SGR and the collection of data necessary to calculate the update, this preliminary estimate also appears reasonable.

Estimate of the sustainable growth rate for 2002

HCFA's preliminary estimate of the SGR for 2002 of 6.0 percent is based on estimates of a change in input prices for physician services of 1.5 percent, growth in traditional Medicare enrollment of 0.4 percent, growth in real GDP per capita of 2.4 percent, and growth in spending due to law and regulations of 1.5 percent (Table 8-1). This estimate of the SGR for 2002 is lower than HCFA's current estimate of the SGR for 2001, which is 7.0 percent (HCFA 2001). The two SGRs are different largely because HCFA projects less growth in traditional Medicare enrollment in 2002 than in 2001.

Change in input prices

By law, the change in input prices in the SGR is a weighted average of the expected changes in input prices for physician services and laboratory services. HCFA's estimate of this factor is based in part on the Medicare Economic Index (MEI), which is 1.8 percent. The estimate also accounts for changes in payment rates for laboratory services; under the Balanced Budget Act of 1997, these rates will not change in 2002.

A change in input prices of 1.8 percent is slightly lower than in recent years (HCFA 2001). Since 1992, when the physician fee schedule was introduced, the MEI has ranged from 2.0 percent to 3.2 percent (Figure 8-1). One reason for the drop in the MEI is that growth in input prices is expected to slow generally in 2002 (Standard and Poor's DRI 2000). Also, the Bureau of Economic Analysis has revised its methods for calculating productivity growth. (Measures of labor inputs in the MEI are adjusted downward for productivity growth.) This change has shifted estimates of productivity growth upward and reduced estimates of the change in prices for labor inputs measured by the MEI.[6]

1 For purposes of the SGR, physician services include services commonly performed by a physician or in a physician's office. In addition to services paid under the physician fee schedule, these services include diagnostic laboratory tests. To estimate this factor, HCFA uses a weighted average of the Medicare Economic Index (MEI), a measure of changes in input prices for physician services, and the change in payment rates for laboratory services legislated by the Congress. Unlike input price indexes for other services, HCFA adjusts the Medicare Economic Index for growth in the productivity of labor inputs used to provide physician services.

2 For purposes of the update, physician services include only those services paid for under the physician fee schedule.

3 This adjustment maintains the budget neutrality of a technical change introduced to avoid volatility in the conversion factor.

4 The behavioral response adjustment is based on a HCFA assumption that physicians will increase the volume of services to offset a portion of revenue reductions associated with implementation of resource-based practice expense payments (HCFA 1998).

5 The update adjustment factor has two components that account for the difference between target and actual spending. The first component is an adjustment for the difference between target and actual spending in the year before the update occurs, or 2001 in the case of the update for 2002. The second component is an adjustment for the cumulative difference between target and actual spending since April 1996. By law, the first component is weighted to be the most important component of the update adjustment factor.

6 See Chapter 2 of MedPAC's March 2001 report to the Congress for further discussion of MEI issues.

TABLE 8-1

HCFA estimates of factors in sustainable growth rates, 2001-2002

Factor	2001	2002
Change in input prices	1.9%	1.5%
Growth in traditional Medicare enrollment	2.9	0.4
Growth in real GDP per capita	1.5	2.4
Growth in spending due to law and regulations	0.5	1.5
Sustainable growth rate	7.0	6.0

Note: GDP (gross domestic product). The sustainable growth rate is a function of the four factors shown.

Source: HCFA estimates.

Growth in traditional Medicare enrollment

HCFA's forecast of growth in total Medicare Part B enrollment for 2002 is 0.9 percent. Net of growth in Medicare+Choice (M+C) enrollment, Part B enrollment for beneficiaries in traditional Medicare is expected to grow by 0.4 percent.

The forecast growth rate for M+C enrollment of 3.4 percent may be too high or too low. On one hand, for the year ending February 1, 2001, average monthly enrollment in M+C plans fell by 1.5 percent over the previous year, including a 10 percent drop in January. On the other hand, implementation of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) could lead to higher M+C enrollment because the law increased M+C payment rates.[7]

It is too early to analyze the BIPA's effects on M+C enrollment, but further information on enrollment in M+C for 2002 will be available this summer when M+C plans notify HCFA about their contracting plans. This information, combined with additional data on M+C enrollment in 2001, will help HCFA revisit its estimates of enrollment growth before publishing the final update for 2002.

Growth in real gross domestic product per capita

HCFA's estimate of growth in real GDP per capita of 2.4 percent is based on the President's budget proposal for fiscal year 2002. This estimate is consistent with the forecast of real GDP growth for 2002 from the Congressional Budget Office (CBO 2001). The estimate assumes an end to the current economic slowdown and a rebound by next year.

Growth in spending due to law and regulations

For the 2002 update, the factor that accounts for changes in law and regulations reflects provisions in the BIPA that established or increased Medicare Part B coverage for Pap smears, pelvic examinations, glaucoma examinations, colonoscopy, and mammography. The law also established coverage for medical nutrition therapy services for certain beneficiaries with diabetes or renal disease and included other provisions that will lead to greater spending.

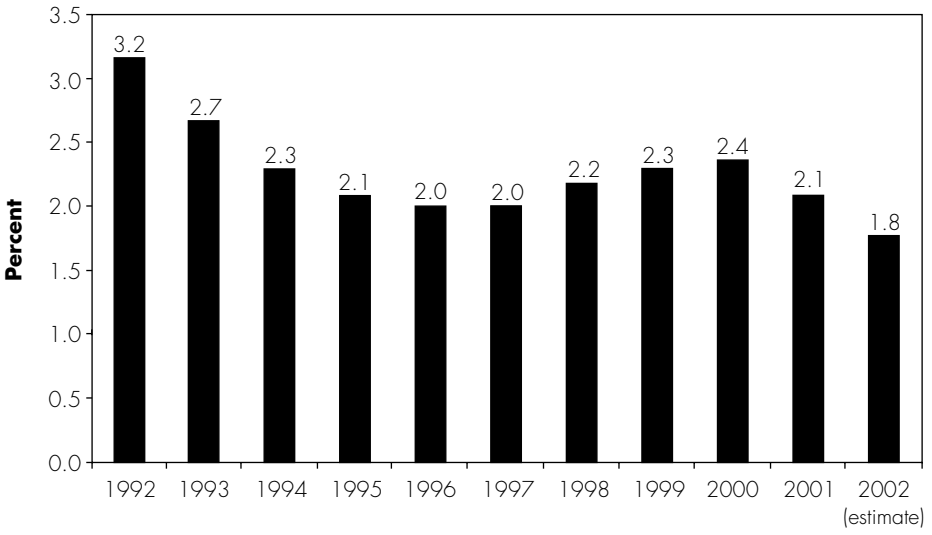
Estimate of the update for 2002

HCFA's estimate of the 2002 update to payments for physician services is −0.1 percent (Miller 2001a). This estimate is based on reasonable estimates of the factors in the statutory formula (Table 8-2, see page 130), but it is lower than the estimated change in input prices for physician services.

Specifically, the change in input prices of 1.8 percent is the estimate of the MEI discussed above. The update adjustment factor of −1.5 percent would reduce the update because estimated spending for physician services is greater than the target determined by the SGR. The legislative adjustment of −0.2 percent is required under the BBRA. Finally, the volume and intensity adjustment of −0.2

FIGURE 8-1

Medicare Economic Index, 1992–2002



Source: HCFA.

7 For further information on M+C payment rates, see p. 113 of MedPAC's March 2001 report to the Congress.

TABLE 8-2

HCFA estimate of the update for physician services for 2002

Factor	Percentage
Change in input prices	1.8%
Update adjustment factor	−1.5
Legislative adjustment	−0.2
Volume and intensity adjustment	−0.2
Update	−0.1

Note: The update is a function of the four factors shown.

Source: HCFA estimates.

percent is based on a HCFA assumption that physicians will provide more services to offset lower payments associated with implementation of resource-based practice expense payments to physicians.

The estimate of the update adjustment factor is negative because HCFA's estimates of actual spending for physician services are greater than the target determined by the SGR. This difference means that HCFA's estimates include growth in real GDP per capita that is less than growth in the volume and intensity of physician services per beneficiary. Without further analysis, reasons for this difference are unclear, but HCFA's estimates assume that volume growth per beneficiary started to exceed growth in real GDP per capita in 2000 and that the difference will widen in 2001.[8]

An update less than the estimated change in input prices may raise concerns about the adequacy of payments and beneficiary access to care, but it is unclear whether the update HCFA has estimated would lead to access problems. The updates for 2000 and 2001 (of 5.4 percent and 4.5 percent, respectively) were somewhat generous in that they were higher than the estimated change in input prices. However, if the final update for 2002 published this fall is substantially lower than HCFA's estimate, it may affect access.

An update lower than HCFA's estimate is possible for two reasons. First, the current economic slowdown may lead to lower growth in real GDP than HCFA estimates, lowering the SGR for 2001. Second, volume growth may be higher than HCFA expects, raising the estimate of actual spending for 2001. Such changes in target and actual spending would have a direct effect on the update because the difference between target and actual spending in 2001 is the most important component of the update adjustment factor for next year.

Replacing the sustainable growth rate system

Regardless of whether HCFA's estimate of the 2002 update under the SGR system is technically reasonable, MedPAC has concluded that the SGR system is not an appropriate method for updating payments for physician services (MedPAC 2001). Accordingly, the Commission has recommended that the Congress replace the SGR system with an annual update based on factors influencing the unit costs of efficiently providing physician services.

MedPAC's recommendation would correct three problems. First, although the SGR system accounts for changes in input prices, it fails to account for other factors affecting the cost of providing physician services, such as scientific and technological advances and new federal regulations. Second, it is difficult to set an appropriate expenditure target with the SGR system because spending for physician services is influenced by many factors not explicitly addressed, including shifts of services among settings and the diffusion of technology. The SGR system attempts to sidestep this problem with an expenditure target based on growth in real GDP, but such a target helps ensure that spending is affordable without necessarily accounting for changes in beneficiaries' needs for care. Third, enforcing the expenditure target is problematic. An individual physician reducing volume in response to incentives provided by the SGR system would not realize a proportional increase in payments. Instead, the increase in payments would be distributed among all physicians providing services to Medicare beneficiaries.

These problems with the SGR system can have serious consequences. Updates under the SGR system will nearly always lead to payments that diverge from costs because actual spending is unlikely to be the same as the target. When this occurs, payments will either be too low, potentially jeopardizing beneficiary access to care, or too high, making spending higher than necessary. Also, the SGR system only applies to services paid under the physician fee schedule, including services provided in physicians' offices. It does not apply to facility payments, such as payments to hospital outpatient departments and ambulatory surgical centers. Because physicians can provide many services in their offices or in facilities, updates constrained by an expenditure target that apply only to one setting could create financial incentives that inappropriately influence clinical decisions about where services are provided.

Given these problems with the SGR system, the Commission has recommended that the Congress consider a new approach to updating payments for physician services that more fully accounts for changes in the unit costs of providing those services. In considering updates of other Medicare payments, MedPAC uses an update framework that addresses both the appropriateness of the current level of payment and changes in

8 HCFA warns that the estimates of actual spending may change because data the agency used to calculate the preliminary estimate of the update for 2002 were based only on complete claims through the second quarter of 2000.

costs expected to occur during the coming year. The Commission believes elements of this framework could provide a promising basis for developing a new approach for updating payments to physicians. ■

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APPENDIX A

Clinically based indicators of access to care for Medicare beneficiaries

APPENDIX A

Clinically based indicators of access to care for Medicare beneficiaries

Ensuring beneficiaries' access to necessary medical care is a primary goal of the Medicare program. Some policy experts fear that beneficiaries residing in certain rural areas may have more difficulty getting needed services and quality care as compared with their urban counterparts (see Chapters 2 and 3). To address these issues, MedPAC contracted with Direct Research LLC for a study using clinically based measures of access to care. As reported in Chapter 2, except for residents of the most remote rural areas, MedPAC found that rural beneficiaries were nearly as likely as their urban counterparts to receive necessary care.

The clinically based indicators of needed care (Table A-1, see page 136) used by Direct Research LLC were developed by a research team at RAND as part of a project which was funded by MedPAC's predecessor, the Physician Payment Review Commission (PPRC 1995, PPRC 1997). RAND designed these indicators to reflect basic clinical standards of care for common medical diagnoses. Necessary care was defined as care for which (1) the benefits of care outweigh the risks, (2) the benefits to the patient are likely and substantial, and (3) physicians have judged that not recommending the care would be improper (Asch et al. 2000). For the indicators, RAND selected medical conditions that had a high prevalence or incidence among the elderly population, for which effective medical treatment was available, and that were readily identifiable from diagnoses coded on claims forms.

RAND developed two types of measures: those reflecting minimum standards of acceptable care for certain diagnoses and those representing potentially avoidable outcomes. Therefore, measures do not necessarily document optimal care, but rather define the minimally acceptable care or services for certain diseases. Measures of potentially avoidable care include use of emergency services or hospitalizations that might have been averted had patients received better outpatient disease management and treatment. Because these measures can be derived from claims and administrative data, they provide a relatively inexpensive and easy method to monitor underuse of medical services by Medicare beneficiaries.

TABLE A-1

Clinically based indicators of access to needed care for elderly Medicare beneficiaries with certain diagnoses

Anemia

- For patients with iron deficiency anemia: gastrointestinal workup
- Hematocrit/hemoglobin between one and six months following initial diagnosis of anemia

Breast cancer

- For patients with breast cancer and eventual mastectomy: interval from biopsy to definitive therapy (surgery delay time) should be less than three months
- Visit every six months for breast cancer patients who have undergone mastectomy and cytotoxic chemotherapy
- Mammography every year for patients with a history of breast cancer
- At initial diagnosis of breast cancer, mammogram
- At initial diagnosis of breast cancer, chest X-ray
- Visit every year for breast cancer patients who have undergone mastectomy without cytotoxic chemotherapy

Diabetes

- Glycosolated hemoglobin or fructosamine every six months for patients with diabetes
- Eye exam every year for patients with diabetes
- Visit within four weeks following discharge of patients hospitalized with diabetes
- Visit every six months for patients with diabetes

Gastrointestinal bleeding

- Visit within four weeks following discharge of patients hospitalized with gastrointestinal bleeding
- Hematocrit within four weeks following discharge of patients hospitalized with gastrointestinal bleeding
- Follow-up visit within four weeks of initial diagnosis of gastrointestinal bleeding

Heart and circulatory system

- Visit within four weeks following discharge of patients hospitalized with myocardial infarction (MI) or heart attack
- Cholesterol test every six months for patients hospitalized with MI who have an elevated cholesterol level
- Electrocardiogram (EKG) during emergency department visit for unstable angina
- Visit within four weeks following discharge of patients hospitalized with unstable angina
- Visit every six months for patients with stable angina
- Follow-up visit or hospitalization within one week of initial diagnosis of unstable angina
- Chest X-ray within three months of initial diagnosis of congestive heart failure (CHF)
- Visit within four weeks following discharge of patients hospitalized for CHF
- EKG within three months of initial diagnosis of CHF
- Visit every six months for patients with CHF
- Visit within four weeks following discharge of patients hospitalized with malignant or otherwise severe high blood pressure

Pulmonary system

- Visit every six months for patients with chronic obstructive pulmonary disease (COPD)

Stroke

- EKG within two days of initial diagnosis of transient ischemic attack (TIA)
- For TIA patients with eventual carotid endarterectomy: interval between carotid imaging and endarterectomy less than two months
- Visit within four weeks following discharge of patients hospitalized for TIA
- Visit every year for patients with diagnosis of TIA
- For patients hospitalized for carotid territory stroke: carotid imaging within two weeks of initial diagnosis
- For cerebral vascular accident (CVA) patients with eventual carotid endarterectomy: interval between carotid imaging and endarterectomy less than two months
- Visit within four weeks of discharge of patients hospitalized with CVA

Continued on next page

TABLE A-1

Clinically based indicators of access to needed care for elderly Medicare beneficiaries with certain diagnoses

Continued from previous page

Avoidable outcomes

- Among patients with angina, three or more emergency department visits for heart-related diagnoses in one year
- Among patients with gall stones, diagnosis of perforated gallbladder
- Among patients with COPD, subsequent admission for respiratory diagnosis
- Nonelective admission for CHF
- Among patients with diabetes, admission for diabetic coma
- Among patients with pneumonia, diagnosis of lung abscess or empyema

Preventive care

- Visit every year
- Assessment of visual impairment every two years
- Mammography every two years in female patients

Other

- Cholecystectomy (open or laparoscopic) for patients with gall stones and inflammation of the gall bladder, bile duct and/or pancreas
- Arthroplasty or internal fixation of hip during hospital stay for broken hip
- Visit within two weeks following discharge of patients hospitalized for depression

Note: A visit may be with a physician or a nonphysician provider, including a nurse practitioner or a physician assistant.

Source: Hogan (2001).

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APPENDIX B

Summary of Medicare's special payment provisions for rural providers and criteria for qualification

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Summary of Medicare's special payment provisions for rural providers and criteria for qualification

This appendix summarizes Medicare's special payment provisions and the criteria for qualification for the following groups of rural hospitals:

- Geographically reclassified hospitals
- Sole community hospitals
- Small rural Medicare-dependent hospitals
- Critical access hospitals
- Rural referral centers
- Hospital swing beds

Geographically reclassified hospitals

Hospitals that believe their area wage index or base payment rate does not adequately address the costs they face may apply separately to be reclassified for payment purposes. Both rural and urban hospitals have applied for reclassification into rural, other urban, and large urban areas.[1]

Criteria to qualify

Hospitals may qualify for reclassification in one of three ways:

1. They must prove proximity and similarity to the area of reclassification. Proximity may be based on distance (no more than 15 miles away for an urban hospital and 35 miles for a rural hospital) or employment patterns (at least 50 percent of the hospital's employees reside in the area). Separate similarity tests apply to reclassification for wage index and base payment amount, and a hospital seeking reclassification for both must choose the same area.
   - For wage index reclassification, a hospital's wages must be more than 106 percent (108 percent for urban facilities) of the local area wage index, as well as at least 82 percent (84 percent for urban facilities) of the wage index in the area of reclassification.
   - For base payment reclassification, a hospital must demonstrate that its average case-mix-adjusted cost per discharge is more than its current rate plus 75 percent of the difference between that rate and the rate it would receive if it were reclassified.
2. Different rules apply to rural referral centers (RRCs) and sole community hospitals (SCHs).
   - RRCs and SCHs do not have to demonstrate proximity to the area to which they seek redesignation.
   - RRCs also do not have to meet the 106 percent criterion for average hourly wage.
   - An RRC or SCH that qualifies for reclassification to an urban area is assigned to the area closest to the hospital.
3. All hospitals in a county can apply for group reclassification. For hospitals in a rural county seeking urban redesignation, the county must be adjacent to the metropolitan area to which the hospitals seek to be assigned. The hospitals must demonstrate that the rural county in which they are located currently meets the similarity criteria.

1 A large urban area is defined as an urban area with a population of at least one million.

Payment provisions

A reclassified hospital receives the wage index, base payment rate, or both of the area to which it has been assigned.

Sole community hospitals

The intent of the SCH program, started in 1983, is to maintain access to needed health services for Medicare beneficiaries by providing financial assistance to hospitals that are geographically isolated.

Criteria to qualify

A hospital seeking SCH status must meet one of the following criteria:

1. It must be 35 miles from a like hospital.
2. It must be between 25 and 35 miles from a like hospital and meet one of the following criteria:
   - No more than 25 percent of all inpatients or 25 percent of inpatient Medicare beneficiaries in its service area may be admitted to other like hospitals within 35 miles.
   - It must have fewer than 50 beds and would have met the above criteria, except that some patients or residents had to seek care outside the service area because necessary specialty services were unavailable.
   - Nearby like hospitals must be inaccessible for at least 30 days in 2 out of 3 years because of local topography or periods of prolonged severe weather conditions.
3. It must be between 15 and 25 miles from a like hospital but because of local topography or periods of prolonged severe weather conditions, nearby like hospitals are inaccessible for at least 30 days in 2 out of 3 years.
4. Because of distance, posted speed limits, and predictable weather conditions, the travel time between the hospital and the nearest like hospital must be at least 45 minutes.

Payment provisions

Sole community hospitals benefit from four provisions. First, they are paid the highest of four amounts for Medicare inpatient services: the current prospective payment system (PPS) rate, or base year costs per discharge from 1982, 1987, or 1996 updated to the current year. The 1996 base went into effect in fiscal year 2001, and will be phased in between 2001 and 2004 in four 25 percentage-point increments.

Second, an SCH that receives the PPS rate and qualifies for a disproportionate share hospital (DSH) payment receives up to a 10 percent adjustment, rather than the maximum of 5.25 percent received by other rural hospitals.[2]

Third, SCHs need not meet the proximity requirement of geographic reclassification, which could facilitate approval for reclassification to a region with a higher wage index, base payment rate, or both.

Finally, if an SCH experiences a decrease of more than 5 percent in total number of inpatient cases due to circumstances beyond its control, it is eligible to receive payments necessary to fully compensate it for fixed costs.

Small rural Medicare-dependent hospitals

The Medicare-dependent hospital (MDH) program, established in 1987, is intended to support small rural hospitals for which Medicare patients make up a significant percentage of inpatient days or discharges. This greater dependence on Medicare may make these hospitals more financially vulnerable to prospective payment, and the MDH designation is designed to reduce this risk.

Criteria to qualify

A hospital qualifies for the MDH program by meeting all of the following criteria:

1. It is located in a rural area.
2. It has no more than 100 beds.
3. It is not classified as an SCH.
4. It has at least 60 percent of inpatient days or discharges covered by Medicare.

Payment provisions

Medicare-dependent hospitals benefit from two provisions. First, they are paid for inpatient services the sum of the PPS payment rate plus half of the amount by which the highest of hospital-specific base year costs per discharge for Medicare patients from 1982 or 1987 (updated to the current year) exceeds the PPS rate.

Second, an MDH with a caseload that falls by more than 5 percent (due to circumstances beyond its control) may receive payments necessary to fully compensate it for fixed costs.

Critical access hospitals

The critical access hospital (CAH) program, established in 1997, is intended to support limited-service hospitals located in rural areas that cannot support a full-service hospital. The CAH program replaced the essential access community hospital (EACH), rural primary care hospital (RPCH), and Montana medical assistance facilities (MAF) programs, which had similar features. Before the Balanced Budget Refinement Act of 1999 (BBRA), the CAH program was limited to public and non-profit private hospitals.

Criteria to qualify

A hospital may qualify for the CAH program in one of three ways:

1. It meets the following criteria:
   - It is located in a rural area.

2 Hospitals that receive cost-based payment for Medicare inpatient services do not receive payment adjustments available under the PPS (DSH, indirect medical education, outlier payments, etc.). This applies to hospitals certified as sole community, critical access, or Medicare-dependent.

- It is more than 35 road miles (or, in the case of mountainous terrain or in areas with only secondary roads available, 15 miles) from a similar hospital.
- It provides 24-hour emergency care services.
- It has no more than 15 acute care beds (or 25 in limited cases, including up to 10 swing beds).
- It has stays averaging no more than 96 hours per patient. (The Balanced Budget Act of 1997 (BBA) mandated a length-of-stay maximum of 96 hours; the BBRA changed this to a 96-hour average length of stay.)

2. It is certified by the state as being a necessary provider of health care services to residents in the area. Hospitals cannot apply for designation as a CAH unless their state has developed or is in the process of developing a "rural health plan," which is submitted to the Health Care Financing Administration (HCFA) for review and approval.
3. It was previously certified under the RPHC or MAF programs.

Payment provisions

Critical access hospitals are reimbursed by Medicare for both inpatient and outpatient services on the basis of their current Medicare-allowable costs. They are exempt from the inpatient and outpatient PPSs, but are subject to the home health and skilled nursing facility (SNF) systems. CAH swing beds are exempt from the SNF PPS.

Rural referral centers

The RRC program, established in 1983, is intended to support high-volume hospitals that treat a large number of complicated cases and function as regional or national referral centers. RRC designation is intended to support the greater intensity and costs these facilities may have.

Criteria to qualify

A rural hospital must meet one of three criteria to qualify:

1. It has at least 275 beds.
2. It demonstrates that:
   - at least 50 percent of its Medicare patients are referred from other hospitals or from physicians not on the hospital staff,
   - at least 60 percent of its Medicare patients live more than 25 miles away, and
   - at least 60 percent of the Medicare services it furnishes are provided to beneficiaries who live more than 25 miles away.
3. It demonstrates that it:
   - has a case-mix index value greater than or equal to the median for all urban hospitals in the same census region, and
   - has at least 5,000 discharges per year (3,000 for osteopathic hospitals) or at least the median number of discharges for urban hospitals in the same region, and meets at least one of the following three criteria:
     a. more than 50 percent of its medical staff are specialists,
     b. at least 60 percent of its discharges are for inpatients who reside more than 25 miles away, and
     c. at least 40 percent of its inpatients are referred from other hospitals or from physicians not on the hospital's staff.

Payment provisions

Under the original PPS legislation, RRCs received the urban rather than rural base payment rate, adjusted by their area wage index. When the rural and "other urban" payments were combined in 1994, this preferential payment policy was eliminated for most RRCs. A few still qualify for the large urban base payment rate, which is 1.6 percent higher than the combined rural/other urban rate.

The RRC program offers two other special payment provisions. First, qualifying RRCs receive a higher DSH adjustment than do other rural hospitals. Most rural hospitals' DSH add-ons are capped at 5.25 percent, but RRCs receive an additional 0.6 percent adjustment for every percentage point that their disproportionate patient percentage exceeds 30.[3] Second, RRCs are exempt from two of three criteria for geographic reclassification: an RRC need not demonstrate proximity to the area to which it seeks redesignation or that its wages exceed 106 percent of the average for its actual area.

Hospital swing beds

The hospital swing bed program, established in 1980, is intended to enhance access to long-term care in rural communities. The swing-bed provisions allow rural hospitals to provide long-term care services to Medicare and Medicaid patients without establishing a separate unit.

Criteria to qualify

To qualify, a hospital must meet the following criteria:

1. It has fewer than 100 beds and is located in a rural area.
2. It has been granted a certificate of need (if required by the state) for the provision of long-term care services.
3. It has not had a swing-bed approval terminated within the two years before its application.

3 The disproportionate patient percentage (DPP) is defined as the ratio of Medicare Supplemental Security Income days to total Medicare days plus the ratio of Medicaid days to total days. To qualify for DSH payments, a hospital's DPP must be at least 15.

If the hospital has more than 49 beds and was approved as a swing-bed hospital after March 1988, it must have an agreement with each Medicare-participating SNF located in the hospital's geographic region requiring it be notified when beds suitable for post-acute care placement will be open, and generally must transfer patients within five days after determining that a SNF bed is available.

Payment provisions

Hospitals with swing beds are paid the average Medicare rate per patient day for routine services provided in freestanding SNFs in their census region. Ancillary services are reimbursed on a reasonable cost basis, where costs are determined in a manner comparable to that of all other ancillary services provided by the hospital. For swing-bed hospitals with more than 49 beds, the number of SNF patient days in each cost reporting period is required to be less than 15 percent of the hospital's available bed days. The BBA did not include swing-bed hospitals in the SNF PPS, but required HCFA to develop a transition to the SNF PPS for swing-bed hospitals.

APPENDIX C

Financial performance of rural hospitals and the value of special payment policies

APPENDIX C

Financial performance of rural hospitals and the value of special payment policies

This section provides a detailed analysis of hospital financial performance to accompany the discussion of Medicare inpatient payment policy in Chapter 4. These analyses compare the performance of rural hospitals—including distinct groups of rural hospitals created by Medicare payment policy as well as by degree of ruralness—with that of urban ones.[1] In general, rural hospitals have lower Medicare margins but higher total margins than their urban counterparts. This appendix begins with an analysis of financial performance under Medicare and then expands to trends in other sources of patient revenue (private payers and Medicaid, as well as uncompensated care) and finally to total margins (reflecting all payers and non-patient care revenue).

Financial performance under Medicare

Medicare is the largest purchaser of health services from hospitals, and Medicare plays a larger role in rural areas than in urban areas. This makes financial performance under Medicare relatively more important for rural hospitals. In this section, we examine the trend in inpatient margins, the impact of special payment provisions for certain rural hospitals compared with other special payments Medicare makes primarily to urban hospitals, and the overall Medicare margin, which includes hospitals' five largest lines of Medicare business.

Medicare inpatient margin

In the early 1990s, the Medicare inpatient margin was negative for both urban and rural hospitals, but the difference between the two groups was slight.[2] Through the 1990s, urban hospitals had higher inpatient margins than rural hospitals, and the gap has widened in recent years (Figure C-1). In 1999, the urban margin fell to 13.5 percent after reaching an all-time high of 18 percent in 1997, while the margin for rural hospitals dropped to 4.1 percent after peaking at 10 percent in 1996.

The Medicare inpatient margin is lower for rural hospitals than urban hospitals due to lower payments and relatively higher cost growth. Differences in payment levels have been relatively constant over time because most indirect medical education (IME) and disproportionate share (DSH) payments go to urban hospitals and contribute substantially to their higher margins.[3] Accompanying this, rural hospitals have had higher cost increases throughout the 1990s. Between 1990 and 1999, rural hospitals' cost increases have consistently been 1 to 2 percentage points higher than those of urban hospitals, and the cumulative change in cost per case was nearly 30 percent for rural hospitals and just 14 percent for urban hospitals (Figure C-2). This has caused the gap in the inpatient margin to grow steadily, to nearly 10 percentage points in 1999. This suggests that the difference in inpatient margins between rural and urban hospitals is due more to higher rates of cost growth for rural hospitals than inherent differences in payment policy.

Although cost growth slowed for all hospitals in the mid-1990s, it has begun to increase in recent years. The effect of differences in cost growth was most

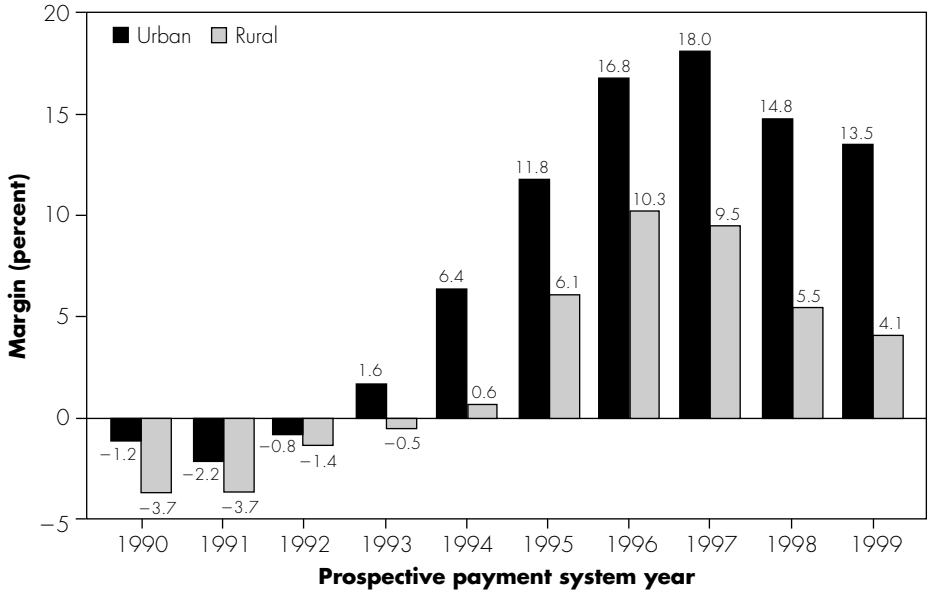
1 For an overview of the special payment policies for rural hospitals, see Appendix B and the text box in Chapter 4.

2 The inpatient margin is calculated (in percentage terms) as the difference between inpatient payments and Medicare-allowable costs (as derived from costs reported by hospitals to the Health Care Financing Administration) divided by inpatient payments. The same general approach is used for the overall Medicare margin and the total margin.

3 The impact of both IME and DSH payments on total prospective payment system payments to urban and rural hospitals is estimated in the section on the value of Medicare's special payment provisions.

FIGURE C-1

Medicare inpatient hospital margin, by urban and rural location, 1990–1999

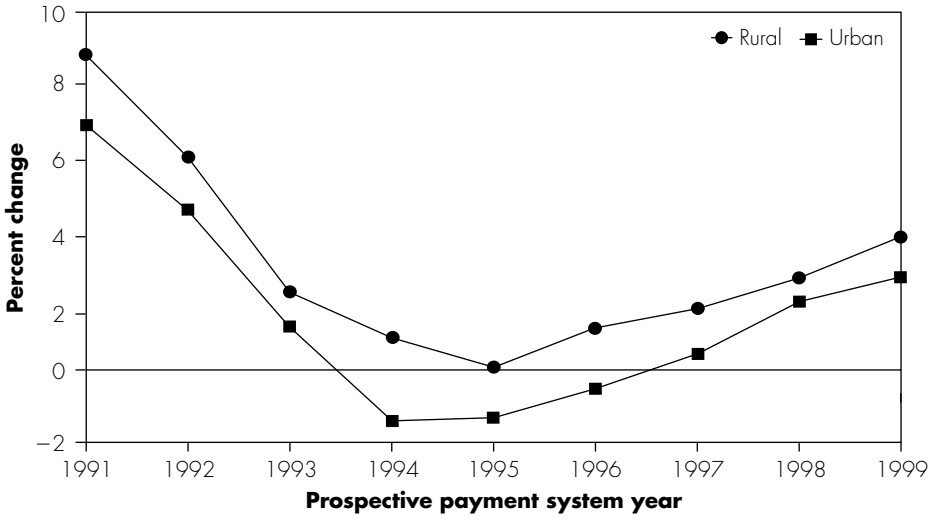


Note: Data for 1999 are preliminary, based on two-thirds of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowable costs.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

FIGURE C-2

Percent change in cost per case, urban and rural hospitals, 1991–1999



Note: Data for 1999 are preliminary, based on two-thirds of all hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

striking in 1997, when rural hospital inpatient margins fell while those of urban hospitals continued to increase. In 1999, rural hospital costs increased 3.7 percent and urban hospital costs 2.6 percent, the highest rate since 1993 for either group.

Much of rural hospitals' higher growth in costs per case appears to have been caused by smaller reductions in length of stay. Through the 1990s, urban hospitals' length of stay declined 32 percent, compared with 24 percent for rural facilities. The larger drop for urban hospitals is perhaps due to better access to providers of post-acute and follow-up ambulatory care in their service areas. After considerably larger reductions for urban hospitals in each year from 1993 to 1996, the decline in length of stay has slowed in recent years for both urban and rural hospitals, to less than 2 percent for both groups in 1999 (Figure C-3).

The trend in unit costs is closely related to the trend in volume of services. Overall, admissions to community hospitals have grown by 3.9 percent over the last decade.[4] Although this rate of increase has not kept pace with population growth, the industry as a whole has improved its ability to realize efficiency gains related to scale of operation. But the cumulative increase has been only 2.6 percent for rural hospitals, compared with 4.1 percent for urban facilities, which suggests that rural hospitals' problems of scale have worsened relative to their urban counterparts.

Rural hospitals that receive special payments under Medicare—rural referral centers (RRCs), sole community hospitals (SCHs), and small rural Medicare-dependent hospitals (MDHs)—have higher inpatient margins than other rural hospitals (Table C-1). At 7.7 percent, the margin for MDHs is more than four times that of rural hospitals with more than 50 beds that have not qualified for any of Medicare's special payment provisions.

4 This analysis was based on data from the American Hospital Association's Annual Survey of Hospitals, with hospitals segregated according to the urban/rural designation of their county in 1999.

Hospitals located in the most isolated rural areas have the highest inpatient margins of all rural hospitals, and fewer had negative margins (Table C-2). Other rural hospitals in areas adjacent to urban areas, or not adjacent but containing a town, have lower margins and a greater share have negative margins than either urban hospitals or the most isolated rural hospitals. That the most rural hospitals have a Medicare inpatient margin exceeding 8 percent suggests that the existing special payment policies that seek to target isolated hospitals have indeed had a positive effect—on average—for these hospitals.

Value of Medicare's special payment provisions

Over the years, the Congress has responded to perceived problems of rural hospitals by enacting a number of policies that provide special payments to certain rural facilities. We have measured the payment value of these provisions and their proportional impact on Medicare inpatient payments for the hospitals that qualify.[5] This analysis provides insight into the number of facilities that benefit from special payments, shows which benefits the facilities receive, and also provides a sense of scale by analyzing other policies that tend to benefit urban hospitals over their rural counterparts.

We analyzed the following payment policies:

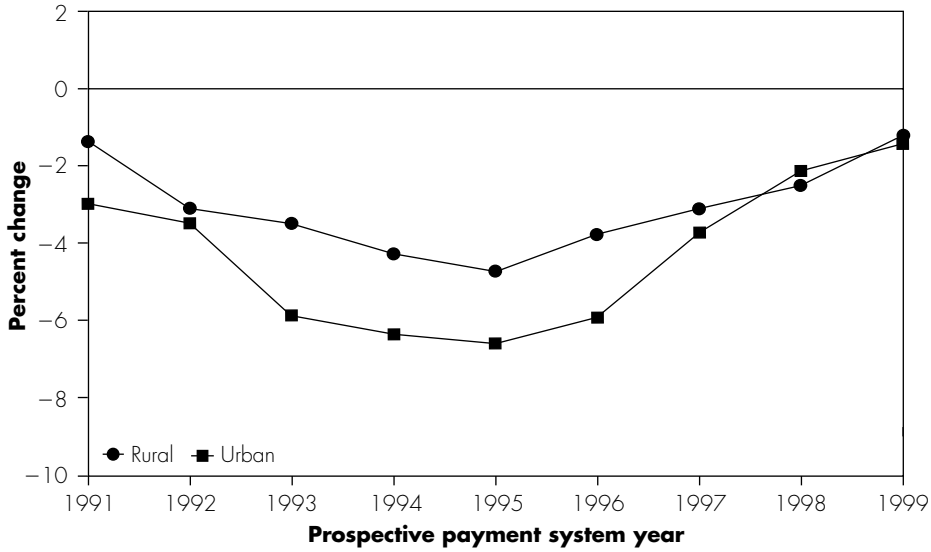
- sole community hospitals
- small rural Medicare-dependent hospitals
- rural referral centers
- critical access hospitals
- disproportionate share payments
- geographic reclassification
- indirect medical education payments in excess of the cost impact of teaching

Table C-3 shows the number of hospitals in each special payment group (a hospital can be in more than one of these groups). Although the first four policies are technically restricted to rural hospitals, all except the Medicare-dependent program allow a hospital to keep its group designation—and the resulting additional payment—if its county becomes urban. All hospitals may qualify for DSH and IME payments and geographic reclassification, but substantially more urban hospitals receive DSH and IME payments, while more rural hospitals are reclassified.

Not all rural hospitals in a special payment group receive the special payments for which they are eligible, for instance because prospective payment system (PPS) payments are higher, or they do not meet the DSH eligibility threshold. Table C-4 shows the number of hospitals in each group that receive special payments, the type of special payment received, and the resulting increase in PPS payments.

FIGURE C-3

Percent change in length of stay, urban and rural hospitals, 1991–1999



Note: Data for 1999 are preliminary, based on two-thirds of all hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

TABLE C-1

Inpatient Medicare, overall Medicare, and total margins, by rural hospital groups, 1999

Hospital group	Medicare inpatient margin	Overall Medicare margin	Total margin
Rural referral centers	4.5	−1.3	7.4
Sole community hospitals	4.9	−2.7	3.0
Medicare-dependent hospitals	7.7	−1.3	2.5
Other rural < 50 beds	3.1	−5.6	1.5
Other rural ≥ 50 beds	1.7	−5.0	3.8

Note: Inpatient and overall Medicare data are based on Medicare-allowable costs. Data are preliminary; the inpatient and total (all sources of revenue) margins are based on a sample of about two-thirds of hospitals covered by prospective payment, while the overall Medicare margin is based on about one-half of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

5 The value of special payments was estimated for hospital cost reporting periods beginning in fiscal year 2000.

TABLE C-2

Hospital Medicare inpatient margin and percent of hospitals with negative margin, by hospital location, 1999

Hospital location (UIC)	Medicare inpatient margin	Percent with negative margin
Urban, in an MSA (1,2)	13.5%	26.1%
Rural		
Adjacent to an MSA and includes a town with at least 10,000 people (3,5)	3.1	42.5
Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)	6.0	43.3
Not adjacent to an MSA but includes a town with at least 2,500 people (7,8)	4.5	43.5
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	8.4	36.0

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture). MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget). Data are based on Medicare-allowable costs. Data are preliminary, based on two-thirds of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

SCHs are eligible for the higher of costs in a specific base year trended forward or PPS payments with potentially higher DSH payments. About half of SCHs qualify for payments based on base-year costs, and about one-quarter receive extra DSH payments. SCH payments linked to base-year costs represent the largest single benefit to rural hospitals. In 2000, the extra payments due to this benefit totaled $248 million, which raised the payments of qualifying hospitals by 8.1 percent relative to what they would have received under the PPS.[6] As of 2001, these hospitals have the additional prospect of receiving 1996 base year costs trended forward, in addition to the 1982 and 1987 base-year options previously available. We estimate that an additional 43 hospitals will benefit from this option, increasing total SCH cost-based outlays by $54 million.

In comparison, in 2000 approximately 40 percent of Medicare-dependent hospitals qualified for base-year costs trended forward, which raised their payments by $31 million, or 4.3 percent.

The chief benefit enjoyed by RRCs was easier reclassification. In 2000, approximately 80 percent of RRCs were reclassified, which increases their PPS payments by $217 million, or 7.2 percent. Less than a third of RRCs received additional DSH payments of $30 million, which increased their PPS payments by 0.7 percent.

Cost-based reimbursement for critical access hospitals (that is, the amount of payment above what the PPS would otherwise provide) resulted in a relatively modest increase in Medicare outlays compared with other special payment policies—$18 million in fiscal year 2000, which raised their payments by 10 percent. However, as of April 2001, 375 hospitals have received approval for CAH status, compared with the 216 used in this analysis, and this increase—as well as additional payments for cost-reimbursed outpatient services—will raise the payment estimate substantially.

Payment policies that provide additional payments to both urban and rural hospitals—geographic reclassification, DSH payments, and IME payments in excess of the estimated costs associated with operating an approved residency program—have a much greater impact in terms of increased payments than do rural hospital policies (Table C-5).

TABLE C-3

Hospitals in special payment policy groups, by urban and rural location, 2000

Policy	Rural hospitals	Urban hospitals	All hospitals
All hospitals	2,128	2,722	4,850
Sole community hospitals	597	43	640
Rural referral centers	169	6	175
Sole community and rural referral	56	1	57
Small rural Medicare-dependent hospitals	299	0	299
Critical access hospitals	216	3	219
Geographic reclassification	408	83	491
Disproportionate share	339	1,440	1,779
Indirect medical education	69	1,038	1,107

Note: The number of sole community hospitals has grown to 833 and the number of critical access hospitals to 375 as of April 2001. The changes in qualifying criteria for disproportionate share payments enacted by the Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000 are expected to make 840 additional rural hospitals eligible for this payment adjustment.

Source: MedPAC analysis of data from HCFA.

6 Health Care Financing Administration staff report that the number of SCHs has risen by 75 since the count used for this analysis was developed, which means that the total payments to these hospitals will also increase.

Geographic reclassification is the only one of these policies that tends to benefit rural hospitals more than urban hospitals. In 2000, 408 rural hospitals were reclassified, which increased their payments by $299 million (a 7 percent increase in PPS payments). Only 83 urban hospitals were reclassified, increasing their payments by $124 million, or 5.1 percent of PPS payments. Of the reclassified rural hospitals, approximately one-third were RRCs, and more than half of the total increase in payments from reclassification went to these facilities.

Because reclassification is implemented in a budget-neutral fashion through reductions in the PPS base payments, all hospitals—even those that are reclassified—pay to some extent. The losses due to reclassification are skewed toward urban hospitals. Among hospitals not reclassified, payments to urban hospitals were reduced by $400 million and payments to rural hospitals were reduced by $23 million. In percentage terms, these reductions in total PPS payments were fairly close for non-reclassified urban and rural hospitals, at –0.6 and –0.4 percent, respectively.

Although rural hospitals are eligible to receive DSH and IME payments under Medicare, most of these payments go to urban hospitals. This has contributed to an inpatient margin for urban hospitals that is consistently higher than that of their rural counterparts. More than half of all urban hospitals qualified for DSH payments in 2000, compared with less than 20 percent of rural hospitals. This difference existed in part because the eligibility standard was higher for rural hospitals. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) equalized this standard, which we estimate will allow 840 additional rural hospitals—about 40 percent of the total—to receive DSH payments. Urban hospitals collected more than $4.7 billion in DSH payments in 2000, increasing their PPS payments by 11.5 percent. In contrast, rural hospitals collected $78 million, which increased their payments by 2.7 percent.

TABLE C-4

Rural special payment groups: number receiving additional payments and value of payments, 2000

Hospital group	Number of hospitals	Increase in payments: Amount (millions)	Increase in payments: Percent
Sole community hospitals			
Base year costs trended forward	337	$248	8.1%
Favorable DSH formula	151	43	1.3
Rural referral centers			
Reclassification	179	217	7.2
Favorable DSH formula	52	30	0.7
Medicare dependent hospitals	129	31	4.3
Critical access hospitals	219	18	10.0

Note: DSH (disproportionate share hospital). Hospitals that are both sole community hospitals and rural referral centers are included in the group for which they received payment. Twenty-seven of 56 SCH/RRC hospitals received base-year costs trended forward. DSH payments exceed what a hospital would have received without preferential treatment.

Source: MedPAC analysis of data from HCFA.

TABLE C-5

Value of payment policies that affect both urban and rural hospitals: geographic reclassification, disproportionate share, and indirect medical education payments, 2000

Hospital group	Number of hospitals	Change in payments: Amount (millions)	Change in payments: Percent
Reclassified hospitals			
Urban	83	$124	5.1%
Rural	408	299	7.0
Non-reclassified hospitals			
Urban	2,639	−396	−0.6
Rural	1,720	−23	−0.4
Disproportionate share			
Urban	1,431	4,711	11.5
Rural	339	78	2.7
Indirect medical education			
Urban	1,038	2,313	5.5
Rural	69	34	2.8

Note: Change in payments refers to the difference between what hospitals would receive under prospective payment and what they would receive without the special payment policy. Indirect medical education payments are measured as the amount of payment in excess of MedPAC's estimate of the costs associated with operating an approved residency program. The total disproportionate share payments shown are net of all special disproportionate share payments to special rural groups, which came to roughly $81 million.

Source: MedPAC analysis of data from HCFA.

The next largest source of special payments to urban hospitals is IME payments to teaching hospitals, measured as the level of payments above our estimate of the cost impact of teaching for hospitals with residents. The IME adjustment in 2000 was 6.5 percent for every 10 percent increment in the resident-to-bed ratio, but we estimate the empirical costs of teaching to be about 3.2 percent. The excess payments this difference creates are heavily skewed toward urban hospitals. In 2000, more than 1,000 urban hospitals shared $2.3 billion in IME payments above the costs of teaching, compared with 69 rural hospitals that received just $34 million. This excess increased urban hospital payments by 5.5 percent, compared with 2.8 percent for rural facilities.

The percentage increase in total payments resulting from these special payment provisions is fairly close for urban and rural hospitals, despite the disparity in terms of actual dollar outlays (Table C-6). Urban hospitals received almost $7.2 billion in special payments, which increased their payments 11.4 percent. Rural hospitals received about $800 million, which increased their payments 8.3 percent. The lower standard to qualify for DSH payments granted under the BIPA for all rural hospitals, as well as urban hospitals with fewer than 100 beds, will increase total rural payments by 1.4 percent and urban payments by 0.1 percent. This will bring the total impact of special payment provisions to 9.7 percent for rural hospitals, a level nearly comparable to the urban hospital level of 11.5 percent.

Overall Medicare margin

The overall Medicare margin encompasses the five largest lines of hospital service to Medicare beneficiaries—inpatient, outpatient, home health, skilled nursing, and psychiatric and rehabilitation units. This margin also includes payments and costs for graduate medical education and Medicare bad debt.

The overall Medicare margin plays an important role in our research concerning rural hospitals. When implementation is complete and data are available, this margin will be especially useful in illustrating the performance of rural hospitals under the new PPSs for outpatient departments, home health agencies, and skilled nursing facility units. The appropriateness of the outpatient and home health PPSs for rural hospitals was of particular concern to the Congress in the BBRA.

The overall Medicare margin reflects the relative payment and cost shares of each component of services provided to Medicare beneficiaries. In 1999, hospitals' inpatient margins were sufficiently high and the share of payments accounted for by inpatient services large enough (almost 75 percent) that even though Medicare margins for all other services were negative, the overall Medicare margin was 5.6 percent.

Rural hospitals have had lower overall Medicare margins than urban hospitals and the gap has widened in each of the years for which we have data. In 1998, when some BBA payment policies went into effect, the rural hospital overall Medicare margin fell 6 percentage points, to –2.1 percent (Figure C-4). In 1999, the overall Medicare margin fell again for both urban and rural hospitals, and the disparity between urban and rural hospitals increased to nearly 10 percentage points—the same gap found in the inpatient margin.

The considerably lower overall Medicare margin for rural hospitals reflects a variety of factors. Rural hospitals tend to provide relatively more outpatient and post-acute care, and relatively less inpatient care. About 66 percent of rural hospitals' Medicare costs are accounted for by inpatient services, compared with 73 percent for urban hospitals. Therefore, low Medicare payments (relative to costs) for outpatient services are not as easily compensated by inpatient payments. The lower margin associated with Medicare outpatient services, however, is partly a vestige of hospital accounting practices. Until recently, hospitals were paid for outpatient services on a cost basis, which created a strong incentive for providers to disproportionately allocate overhead and ancillary costs to outpatient services.[7]

The overall Medicare margin of every rural hospital group—regardless of special payment status—fell below zero in 1998 and declined again in 1999. However, hospitals in special payment groups have fared much better than other rural hospitals (Table C-1). In 1999, overall Medicare margins were –1.3 percent for RRCs and Medicare-dependent hospitals, –2.7 percent for SCHs, –5.0 percent for other rural hospitals with 50 or more beds, and –5.6 percent for other rural hospitals with less than 50 beds.

TABLE C-6 **Value of special payment provisions for urban and rural hospitals, 2000**

	Additional payments	
	Amount (millions)	Percent
Under previous policy		
Urban hospitals	$7,188	11.4%
Rural hospitals	783	8.3
With legislated increase in disproportionate share payments under the BIPA		
Urban hospitals		11.5
Rural hospitals		9.7

Note: Additional payments refer to the difference between what hospitals received under prospective payment and what they would have received without special payment provisions. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) lowered the disproportionate share (DSH) eligibility threshold and raised the DSH adjustment rate for rural hospitals and urban hospitals with fewer than 100 beds.

Source: MedPAC analysis of data from HCFA .

7 A 1993 Prospective Payment Assessment Commission study found that outpatient costs were overstated by at least 8 percent.

Financial performance for all sources of revenue

The total margin is a comprehensive measure of hospital financial performance, encompassing payments and costs from all payers, non-patient services, and non-operating revenue. The total margin for the hospital industry as a whole fell substantially in the late 1990s, reflecting slower growth in Medicare payments, continued pressure from managed care organizations and other private payers, losses from alternate lines of service (and divestiture of these ventures), and a return in 1998 and 1999 to cost increases after an era of very low or negative cost growth. These factors affected rural hospitals to a lesser degree, however, and their total margins have not declined as much as those of urban hospitals.

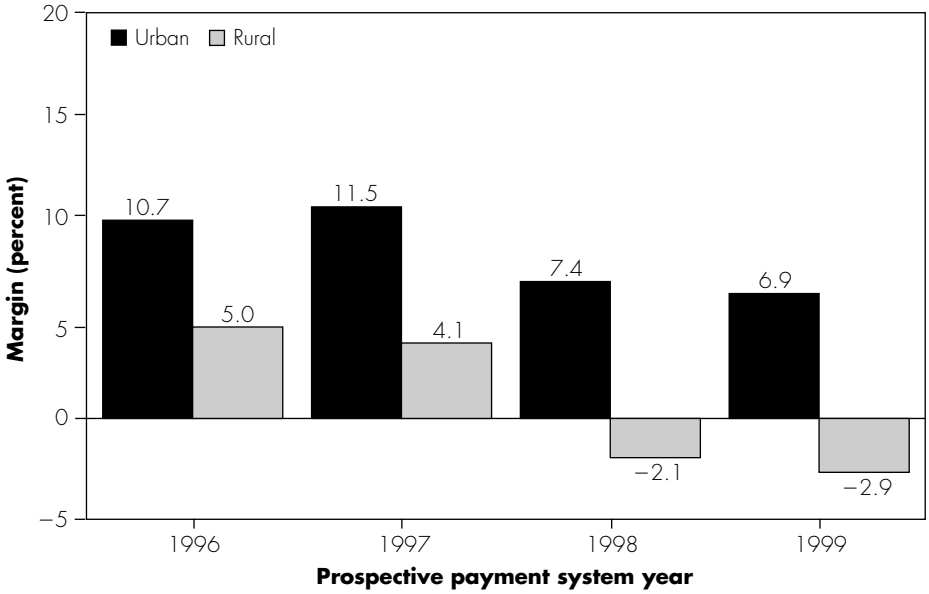
Urban hospitals in recent years have tended to fare slightly better on Medicaid payments than rural hospitals, probably because of a slower rate of cost growth. The ratio of Medicaid payments to costs for urban hospitals grew relative to the ratio for rural hospitals in 1998, but Medicaid payments remained below costs (Figure C-5).

While Medicare and Medicaid margins have been lower for rural hospitals relative to urban hospitals, the private-payer margin for rural hospitals has been consistently higher throughout the 1990s. Payments relative to costs from private payers have fallen for urban hospitals, while payments to rural hospitals have remained above 134 percent of costs, despite rural hospitals' higher cost growth in recent years (Figure C-5). Higher private-sector payments in rural areas reflect the lack of hospital competition and low levels of managed care penetration in rural areas.

Rural hospitals are more dependent than urban hospitals on Medicare and have less private-sector business; therefore,

FIGURE C-4

Overall Medicare margin including graduate medical education, urban and rural hospitals, 1996–1999

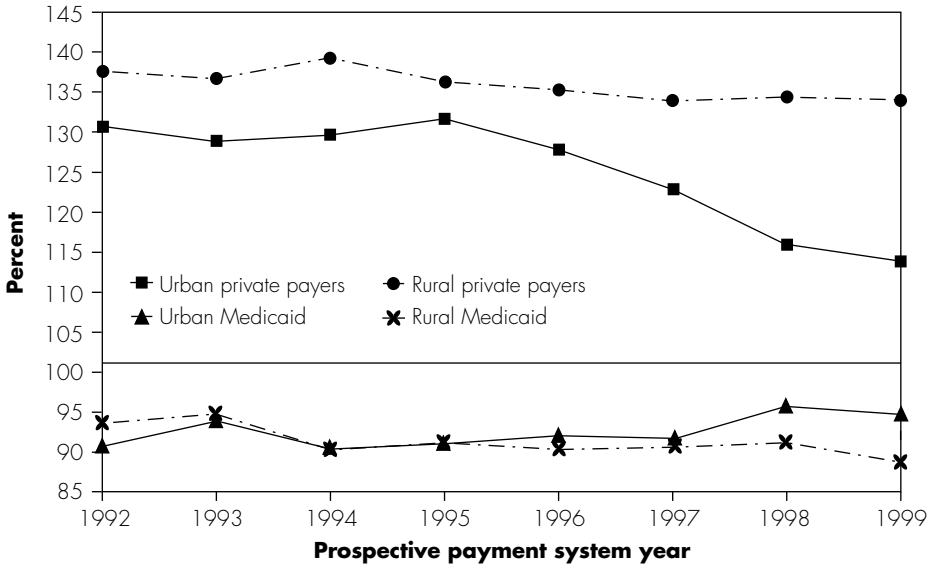


Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowable costs.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

FIGURE C-5

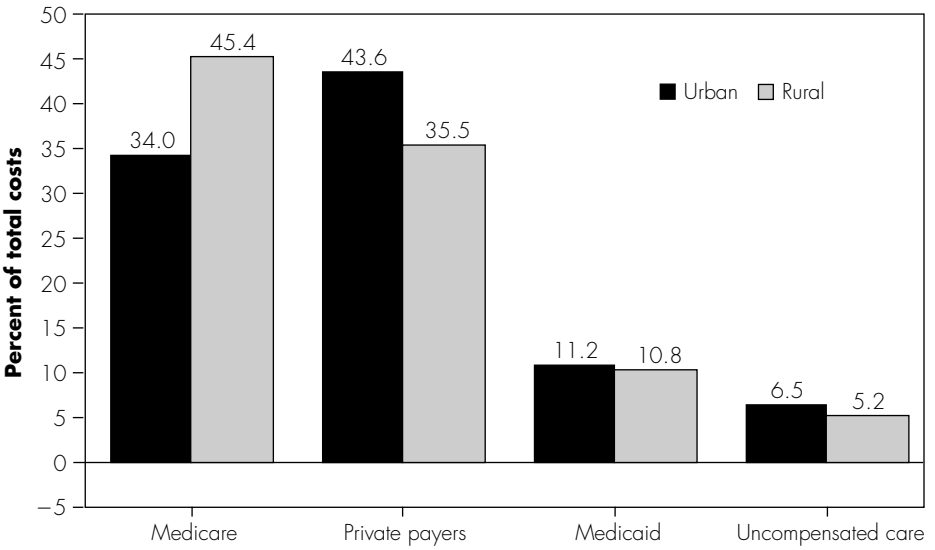
Private payer and Medicaid payment-to-cost ratios, urban and rural hospitals, 1992–1999



Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

FIGURE C-6

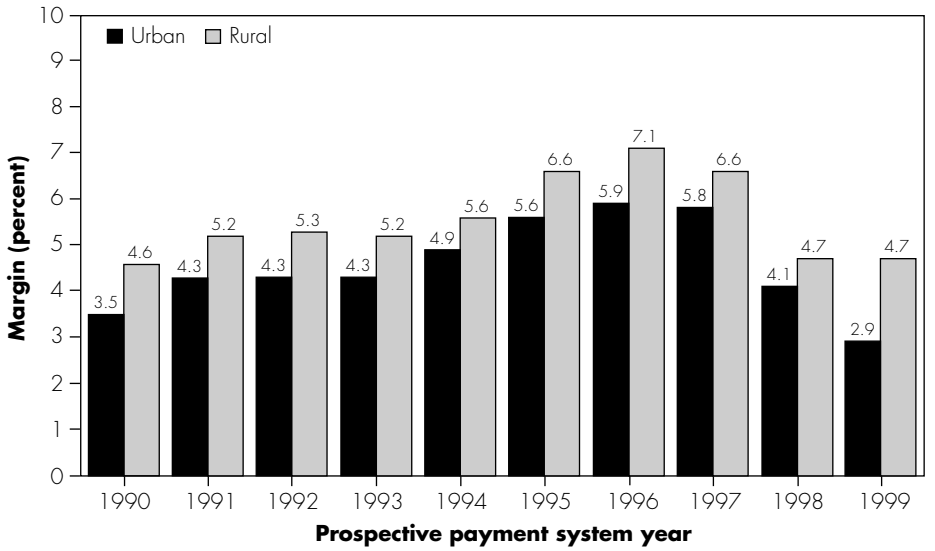
Medicare, Medicaid, and private-payer cost share, urban and rural hospitals, 1999



Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

FIGURE C-7

Total margin, urban and rural hospitals, 1990–1999



Note: Data for 1999 are preliminary, based on two-thirds of all hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

although rural hospitals have much higher private-payer payment-to-cost ratios, they have less private-payer revenue (Figure C-6). Despite the smaller share of private payer business, however, private-sector payments on average were still high enough to produce consistently higher total margins for rural hospitals. This outcome was aided by rural hospitals' modestly lower uncompensated care losses, net of applicable tax subsidies.

Margins for both urban and rural hospitals grew steadily through the mid-1990s, but began to fall in 1997 and fell steeply in 1998 (Figure C-7). In 1999, rural hospital margins remained flat while urban hospital margins continued to decline. This difference appears attributable to differences in market conditions and business practices.

First, urban hospitals continued to experience substantial declines in their payments from private payers, which was not much of a factor in rural areas. Second, rural hospitals probably took smaller one-time write-offs from divesting alternative lines of business—such as hospital-owned managed care plans and physician practices—because they had not dedicated as many resources to these pursuits. Finally, rural hospitals reduced their Medicare home health services at a rate double that of urban hospitals.

There were signs of substantial improvement in hospital financial performance in fiscal year 2000. Data from the National Hospital Indicators Survey (NHIS, jointly sponsored by HCFA and MedPAC) show that the total margin climbed from 3.2 percent for fiscal year 1999 to 4.7 percent for fiscal year 2000. A key factor in this improvement appears to be better negotiation with managed care and fewer one-time losses from leaving alternate lines of business—neither of which is applicable to most

TABLE C-7

Hospital total margin and percent of hospitals with negative margin, by hospital location, 1999

Hospital location (UIC)	Total margin	Percent with negative margin
Urban, in an MSA (1, 2)	2.9%	36.8%
Rural		
Adjacent to an MSA and includes a town with at least 10,000 people (3,5)	4.5	27.5
Adjacent to an MSA but does not include a town with at least 10,000 people (4,6)	3.9	35.8
Not adjacent to an MSA but includes a town with at least 2,500 people (7,8)	5.3	30.2
Not adjacent to an MSA and does not include a town with at least 2,500 people (9)	−0.4	53.5

Note: UIC (urban influence code, as defined by the U.S. Department of Agriculture). MSA (metropolitan statistical area, as defined by the U.S. Office of Management and Budget). Data are based on Medicare-allowable costs from the Medicare Cost Report. Data are preliminary, based on two-thirds of hospitals covered by prospective payment.

Source: MedPAC analysis of Medicare Cost Report data from HCFA.

rural hospitals. Thus, both the drop in 1999 and the increase in 2000 appear to be urban hospital phenomena. The effect of stock market losses on non-operating revenue in 2000 (and pehaps 2001) could mitigate these gains. However, the fiscal year 2000 NHIS margins reflect data through September 2000, a period of substantial equity losses.

Rural hospitals tend to have a somewhat more favorable distribution of total margins than urban hospitals. In 1999, 37 percent of urban hospitals had negative total margins, compared with 34 percent of rural hospitals. The 10th percentile margin (as well as the 25th and 50th) for rural hospitals is also higher.[8] Among rural hospital groups, Medicare-dependent hospitals and other rural hospitals with fewer than 50 beds have the greatest proportions with negative margins: 42 and 40 percent, respectively. However, more than 40 percent of hospitals in large urban areas also have negative margins, despite an aggregate Medicare inpatient margin in these areas of 16 percent.

Although rural hospitals generally have higher total margins, the most isolated rural hospitals have the lowest margin—at –0.4 percent—of any of the five geographic areas defined by degree of ruralness (Table C-7). There is an inverse relationship between the Medicare inpatient margin and total margin that is consistent along this spectrum. Urban hospitals and isolated rural hospitals have the highest inpatient margins and the lowest total margins. This suggests that although efforts to increase Medicare payments to hospitals in these areas have had a favorable impact, they have not offset other market pressures. Large urban hospitals face the most financial pressure from uncompensated care and managed care, but the most isolated rural hospitals face pressures from low patient volume and difficulty in attracting skilled workers. These factors underscore that the financial problems of urban and extremely rural hospitals go well beyond Medicare. ■

8 A percentile margin is defined as the total margin at that point in the distribution. For example, the 10th percentile margin is higher than 10 percent of other margins and lower than 90 percent of other margins.

APPENDIX D

Commissioners' voting on recommendations

APPENDIX D

Commissioners' voting on recommendations

In the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA), the Congress required MedPAC to call for individual Commissioner votes on each recommendation, and to document the voting record in its report. The information below satisfies that mandate.

Chapter 1: Medicare and rural health care: overview and challenges for policymakers

No recommendations

Chapter 2: Rural beneficiaries' access to care

The Secretary should identify strategies to increase rural beneficiaries' participation in government programs that cover Medicare premiums and/or deductibles and coinsurance.

Yes: *Braun, Hackbarth, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Stowers, Wakefield, Wilensky*
Absent: *DeBusk, Johnson, Smith*

Chapter 3: Quality of care in rural areas

3A The Secretary should require the peer review organizations to include rural populations and providers when carrying out their quality improvement activities.

Yes: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Johnson*
Not Voting: *Smith*

3B MedPAC reiterates its June 2000 recommendation that the Congress should require the Secretary to survey at least one-third of each facility type annually to certify compliance with the conditions of participation.

Yes: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rosenblatt, Smith, Stowers, Wakefield, Wilensky*
Absent: *Johnson, Rowe*

Chapter 4: Improving payment for inpatient hospital care in rural areas

4A The Congress should require that rural referral centers' wages exceed the average wage in their area to qualify for geographic reclassification, but these facilities should retain their waiver from the proximity rule.

Yes: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newport, Raphael, Rosenblatt, Rowe, Smith, Stowers, Wakefield, Wilensky*
Absent: *Johnson, Newhouse, Reischauer*

4B The Congress should require the Secretary to develop a graduated adjustment to the rates used in the inpatient prospective payment system for hospitals with low overall volumes of discharges. This adjustment should only apply to hospitals that are more than a specified number of miles from another facility providing inpatient care, with appropriate exceptions for topography or weather conditions.

Yes: *Braun, Hackbarth, Loop, Nelson, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Smith, Stowers, Wakefield, Wilensky*
Absent: *DeBusk, Johnson, Newhouse*

4C In fiscal year 2002, the Secretary should implement fully the policy of excluding from the hospital wage index salaries and hours for teaching physicians, residents, and certified registered nurse anesthetists.

Yes: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Smith, Stowers, Wakefield, Wilensky*
Absent: *Johnson, Newhouse*

4D To ensure accurate input-price adjustments in Medicare's prospective payment systems, the Secretary should reevaluate current assumptions about the proportions of providers' costs that reflect resources purchased in local and national markets.

Yes: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newport, Reischauer, Rosenblatt, Rowe, Smith, Stowers, Wakefield, Wilensky*
Absent: *Johnson, Newhouse*
Not Voting: *Raphael*

4E The Congress should raise the cap on the disproportionate share add-on a rural hospital can receive from 5.25 percent to 10 percent.

Yes: *Braun, Hackbarth, Loop, Nelson, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Smith, Stowers, Wakefield, Wilensky*
Absent: *DeBusk, Johnson, Newhouse*

4F The Congress should revise the target cap for inpatient psychiatric facilities in a way that better addresses differences among them.

Yes: *Braun, DeBusk, Hackbarth, Nelson, Newport, Reischauer, Rosenblatt, Stowers, Wilensky*
Absent: *Johnson, Loop, Newhouse, Raphael, Rowe, Smith, Wakefield*

Chapter 5: Assessing payment for outpatient hospital care in rural areas

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: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Johnson, Smith*

Chapter 6: Prospective payment for home health services in rural areas

6A The Congress should not exempt rural home health services from the prospective payment system.

Yes: *Braun, DeBusk, Hackbarth, Loop, Nelson, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Smith, Stowers, Wilensky*
No: *Wakefield*
Absent *Johnson, Newhouse*

6B The Secretary should study a sample of home health providers: to evaluate the impact of prospective payment on home health in rural areas; to evaluate costs that may affect the adequacy of prospective payments; and to find ways to improve all cost reports.

Yes: *Braun, Hackbarth, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rosenblatt, Rowe, Stowers, Wakefield, Wilensky*
Absent: *DeBusk, Johnson, Smith*

Chapter 7: Bringing Medicare+Choice to rural America

No recommendations

Chapter 8: Reviewing the estimated payment update for physician services

No recommendations

Acronyms

Acronyms

AAPCC	adjusted average per capita cost
ACE	angiotensin converting enzyme
ACE-PRO	Access to Care for the Elderly Project
AHRQ	Agency for Healthcare Research and Quality
AMA	American Medical Association
APR-DRG	all patient refined diagnosis related group
ASC	ambulatory surgical center
BBA	Balanced Budget Act of 1997
BBRA	Balanced Budget Refinement Act of 1999
BIPA	Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000
CAH	critical access hospital
CBO	Congressional Budget Office
CHF	congestive heart failure
CMI	case-mix index
COPD	chronic obstructive pulmonary disease
CRNA	certified registered nurse anesthetist
CVA	cerebral vascular accident
DPP	disproportionate patient percentage
DRG	diagnosis related group
DSH	disproportionate share hospital
EACH	essential access community hospital
EKG	electrocardiogram
FEHB	Federal Employees Health Benefits
FFS	fee-for-service
GAO	General Accounting Office
GDP	gross domestic product
GME	graduate medical education
HCC	hierarchical condition category
HCFA	Health Care Financing Administration
HCRIS	Hospital Cost Report Information System
HHA	home health agency
HHRG	home health resource group
HMO	health maintenance organization
HPSA	health professional shortage area
HRSA	Health Resources and Services Administration
IME	indirect medical education
IPS	interim payment system
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
M+C	Medicare+Choice
MCBS	Medicare Current Beneficiary Survey
MDH	small rural Medicare-dependent hospital

MedPAC	Medicare Payment Advisory Commission
MEI	Medicare Economic Index
MI	myocardial infarction
MIP	Medicare incentive payment
MRI	magnetic resonance imaging
MSA	metropolitan statistical area
NHIS	National Hospital Indicators Survey
OIG	Office of Inspector General
OMB	U.S. Office of Management and Budget
PAC	post-acute care
PFFS	private fee-for-service
PPRC	Physician Payment Review Commission
PPS	prospective payment system
PCCM	primary care case management
PRO	peer review organization
ProPAC	Prospective Payment Assessment Commission
QA	quality assurance
QI	quality improvement
QMB	qualified Medicare beneficiary
RHC	rural health clinic
RPCH	rural primary care hospital
RRC	rural referral center
RVU	relative value unit
SCH	sole community hospital
SCHIP	State Children's Health Insurance Program
SGR	sustainable growth rate
SLMB	specified low-income Medicare beneficiary
SNF	skilled nursing facility
SSI	Supplemental Security Income
TIA	transient ischemic attack
UIC	urban influence code

More about MedPAC

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Commissioners' biographies

Beatrice S. Braun, M.D., is a member of the board of directors of AARP. She is also a member of the State Advisory Council for the Florida Department of Elder Affairs and serves on the board of directors for the Mid-Florida Area Agency on Aging. Dr. Braun founded and, until her retirement in 1989, directed a day treatment program at St. Vincent's Hospital in Harrison, New York, for people with severe and persistent mental illness. She is a past president of the American Association for Partial Hospitalization. She also had a private practice in psychiatry for 16 years and was named a fellow of the American Psychiatric Association. Before her psychiatric specialization, Dr. Braun served for 17 years as a family physician and missionary in South Korea.

Autry O.V. "Pete" DeBusk is chairman, CEO and founder of DeRoyal, a global supplier of medical products and services in the acute care, patient care, wound care, and OEM (original equipment manufacturing) markets. Mr. DeBusk formed his first company in 1970 with a patent he received on an orthopedic product. Later, in 1976, he consolidated his many product lines into one company, DeRoyal Industries. A member of several community organizations, Mr. DeBusk is also chairman of the Board of Trustees at Lincoln Memorial University in Harrogate, Tennessee. As an innovative leader in the medical industry, he received a prestigious award from Duke University in 2000 recognizing "his original contributions to orthopedic surgery." He received his B.S. degree from Lincoln Memorial University and attended graduate school at the University of Georgia.

Glenn M. Hackbarth, J.D., is an independent consultant living in Bend, Oregon. He has experience as a healthcare executive, government official, and policy analyst. He was chief executive officer and one of the founders of Harvard Vanguard Medical Associates, a multispecialty group practice in Boston that serves as a major teaching affiliate of Harvard Medical School. Harvard Vanguard was created from the staff-model delivery system that was the original core of Harvard Community Health Plan. Mr. Hackbarth previously served as senior vice president of Harvard Community Health Plan. From 1981 to 1988, Mr. Hackbarth held positions at the U.S. Department of Health and Human Services, including deputy administrator of the Health Care Financing Administration. Mr. Hackbarth received his B.A. from Penn State University and his M.A. and J.D. degrees from Duke University.

Spencer Johnson is president of the Michigan Health and Hospital Association, the principal statewide advocate for hospitals, health systems, and other health care providers committed to improving community health status in Michigan. Before assuming this position in early 1985, Mr. Johnson was executive vice president of the Hospital Association of New York State. Before that, he was involved in the development of federal health policy and legislation as associate director of the Domestic Council at the White House during the Ford Administration and as a professional staff member of the U.S. Senate and the House of Representatives. He has served on the Prospective Payment Assessment Commission and is a board member of both Blue Cross Blue Shield of Michigan and the MHA Insurance Company. Mr. Johnson holds a master's degree in public administration from Cornell University and a bachelor's degree in journalism from St. Bonaventure University.

Floyd D. Loop, M.D., has served since 1989 as chief executive officer and chairman of the Board of Governors of The Cleveland Clinic Foundation. In the past 10 years, the Cleveland Clinic has developed a regional health care delivery system of clinics and acquired hospitals. Dr. Loop has practiced thoracic and cardiovascular surgery for 30 years and from 1975 to 1989 served as chairman of this department at the Cleveland Clinic. As a practicing surgeon, Dr. Loop and his colleagues have made numerous contributions to cardiac surgery, including extensive writings on internal thoracic artery grafting, reoperations, myocardial protection, and long-term results. He is a former editor of *Seminars in Thoracic and Cardiovascular Surgery* and has served on the editorial boards of 15 specialty journals in surgery and cardiology. Dr. Loop is the author of more than 300 articles on surgery. He chaired the Residency Review Committee for Thoracic Surgery and has been president of the American Association for Thoracic Surgery. He received a medical degree from George Washington University and completed surgical residencies at George Washington University and the Cleveland Clinic.

Alan R. Nelson, M.D., is an internist-endocrinologist who was in private practice in Salt Lake City until becoming chief executive officer of the American Society of Internal Medicine (ASIM) in 1992. Following the merger of ASIM with the American College of Physicians (ACP) in 1998, Dr. Nelson headed the Washington Office of ACP-ASIM until his semi-retirement in January 2000. He currently serves as special advisor to the EVP/CEO of the College. Dr. Nelson also serves on the Board of Trustees of Intermountain HealthCare, a large integrated health system headquartered in Salt Lake City. A member of the prestigious Institute of Medicine of the National Academy of Sciences (IOM), he serves on the IOM Roundtable on Environmental Health Sciences Research and Medicine, and is co-chair of the Workshop Planning Group on the Environment and Cancer. Dr. Nelson, who grew up in Logan, Utah and attended Utah State University, received his M.D. degree from Northwestern University.

Joseph P. Newhouse, Ph.D., is vice chair of the Commission. He is the John D. MacArthur Professor of Health Policy and Management at Harvard University and director of Harvard's Division of Health Policy Research and Education. At Harvard since 1988, Dr. Newhouse was previously a senior corporate fellow and head of the economics department at RAND. He has conducted research in health care financing, economics, and policy, and was the principal investigator for the RAND Health Insurance Experiment. Recipient of several professional awards, he is a member of the Institute of Medicine, a former chair of the Prospective Payment Assessment Commission, and a former member of the Physician Payment Review Commission. He is also a past president of the Association for Health Services Research and has been elected to the American Academy of Arts and Sciences. Dr. Newhouse is editor of the *Journal of Health Economic*s. He received a B.A. from Harvard College and a Ph.D. in economics from Harvard University.

Janet G. Newport is corporate vice president of public policy for PacifiCare Health Systems (PHS), Inc. The Corporate Public Policy Department is responsible for PHS' policy development and strategic response on health care issues, support of the entity's Ethics and Integrity (Compliance) Program, and acts as the Company liaison with key government agencies and Congress. Ms. Newport serves on several American Association of Health Plans technical and advisory committees and is an industry representative on the Health Care Financing Administration's Medicare Council. She has also served as an industry representative on internal HCFA technical committees. She has more than 25 years of public affairs experience, including over 10 years directing the Washington, D.C., office of another major Medicare risk contractor. Ms. Newport received a political science degree from American University.

Carol Raphael is president and chief executive officer of the Visiting Nurse Service (VNS) of New York, the largest voluntary home health care organization in the United States. Her responsibilities include managing its post-acute, long-term care, maternal and child health, high-tech, rehabilitation, hospice, mental health and public health programs and its Centers of Excellence in cardiopulmonary, diabetes, asthma, and cancer care. Under Ms. Raphael's leadership, VNS created VNS Choice, a Medicaid Managed Long-Term Care Health Plan and the Medicare Community Nursing Organization. Ms. Raphael also developed the VNS Center for Home Care Policy and Research, which conducts policy-relevant research focusing on the management, cost, quality, and outcomes of home- and community-based services. Before joining VNS, Ms. Raphael worked for nine years at the New York City Human Resources Administration, leaving as executive deputy commissioner of the Income and Medical Assistance Administration. Ms. Raphael has served on several Robert Wood Johnson Foundation advisory committees and New York State panels, including the New York State Hospital Review and Planning Council. She has an M.P.A. from Harvard University's Kennedy School of Government.

Robert D. Reischauer, Ph.D., is president of The Urban Institute. Previously, he was a senior fellow with the Brookings Institution and from 1989 to 1995 was the director of the Congressional Budget Office. Dr. Reischauer currently serves on the boards of the Academy of Political Sciences, the Center on Budget and Policy Priorities, and the Committee for a Responsible Federal Budget. He also serves on the editorial board of *Health Affairs*, chairs the National Academy of Social Insurance's project on Restructuring Medicare for the Long-Term, and is a member of the Institute of Medicine and the Medicare Competitive Pricing Advisory Commission. Dr. Reischauer received his A.B. degree from Harvard College and his M.I.A. and Ph.D. from Columbia University.

Alice Rosenblatt, F.S.A., M.A.A.A., is chief actuary and senior vice president of Merger and Acquisition Integration at WellPoint Health Networks. Before joining WellPoint in 1996, she was a principal at Coopers & Lybrand LLP, where she consulted with insurers, health plans, providers, and employers. She is a former senior vice president and chief actuary of Blue Cross Blue Shield of Massachusetts and Blue Cross of California. Other positions include work for The New England and William M. Mercer, Inc. Ms. Rosenblatt has served on the Board of Governors of the Society of Actuaries and the American Academy of Actuaries. She previously chaired the Academy's federal health committee and work group on risk adjustment. Ms. Rosenblatt has testified on risk adjustment before subcommittees of the Committee on Ways and Means and the Committee on Commerce of the U.S. House of Representatives. She has a B.S. and an M.A. in mathematics from City College of New York and the City University of New York, respectively.

John W. Rowe, M.D., is president and CEO of Aetna US Inc., the nation's largest healthcare insurer. Prior to joining Aetna, Dr. Rowe served as president and chief executive officer of Mount Sinai NYU Health. Prior to the Mount Sinai NYU Health merger, Dr. Rowe was president of The Mount Sinai Hospital and the Mount Sinai School of Medicine in New York City, where he currently is a professor of medicine and geriatrics. Before joining Mount Sinai in1988, Dr. Rowe was a professor of medicine and the founding director of the Division on Aging at Harvard Medical School and chief of gerontology at Boston's Beth Israel Hospital. He has authored over 200 scientific publications, mostly on the physiology of the aging process, and a leading textbook of geriatric medicine. Dr. Rowe was director of the MacArthur Foundation Research Network on Successful Aging and is co-author, with Robert Kahn, Ph.D., of *Successful Aging* (Pantheon, 1998). He served on the Board of Governors of the American Board of Internal Medicine and as president of the Gerontological Society of America, and is a member of the Institute of Medicine of the National Academy of Sciences.

David A. Smith is director of the Public Policy Department, AFL-CIO. The department's work covers a wide range of domestic and international concerns with a special emphasis on economics. Prior to joining the AFL-CIO, Mr. Smith served as senior deputy budget director and as Commissioner of Economic Development for the City of New York. Mr. Smith spent most of the 1980's in Washington as an aide to Senator Edward M. Kennedy and as a senior economist at the Joint Economic Committee. Mr. Smith has taught economics and public policy at the University of Massachusetts and the New School for Social Research, and is a senior fellow at the Century Foundation. Mr. Smith is a member of the Board of Directors of the National Bureau of Economic Research, a member of the Board of Directors of Public Campaign, a fellow of the National Academy of Social Insurance, a member of the Treasury Department's Advisory Committee on the International Monetary Fund, and a member of the Advisory Committee to the Export-Import Bank. He attended Tufts University and received a M.Ed. from Harvard University.

Ray E. Stowers, D.O., is the director of rural health in the Department of Family Medicine at Oklahoma State University College of Osteopathic Medicine and was in private rural practice for 25 years at Family Medicine Clinics, Inc. in Medford, Oklahoma. He is a member of the National Rural Health Association. Dr. Stowers is second vice president of the American Osteopathic Association and has served that organization in many capacities, including several related to physician coding and reimbursement issues. He has been on the Physician Payment Review Commission and was a founding member of the American Medical Association's Relative Value Update Committee. Dr. Stowers received his B.S. and B.A. degrees from Phillips University in Oklahoma and his D.O. from the University of Health Sciences College of Osteopathic Medicine in Kansas City, Missouri.

Mary K. Wakefield, PhD., has served since 1996 as professor and director of the Center for Health Policy, Research, and Ethics at George Mason University, working on policy analysis, research, and educational initiatives. Dr. Wakefield held administrative and legislative staff positions in the U.S. Senate before assuming her current position. She has served on many public and private health-related advisory boards. From 1997 through 1998, she was on President Clinton's Advisory Commission on Consumer Protection and Quality in the Health Care Industry. In September 1998, Dr. Wakefield was appointed to the Institute of Medicine's Committee on Quality Health Care in America. She was a Kodak Fellow in the Program for Senior Managers in Government at the John F. Kennedy School of Government, Harvard University, and is a fellow in the American Academy of Nursing. Dr. Wakefield received her B.S. in nursing from the University of Mary, Bismarck, North Dakota, and her M.S. and Ph.D. from the University of Texas at Austin.

Gail R. Wilensky, Ph. D., is chair of the Commission. She is the John M. Olin senior fellow at Project HOPE, where she analyzes and develops policies relating to health care reform and ongoing changes in the medical marketplace. She also frequently advises members of the Congress and others on the policies and politics of health care reform. Former chair of Physician Payment Review Commission, Dr. Wilensky has held several posts in the executive branch, most recently as deputy assistant to the President for policy development during the Bush Administration (1992) and, before that, as administrator of the Health Care Financing Administration (1990-1992). Recipient of numerous professional awards, she is a member of the Institute of Medicine, a trustee of the Combined Benefits Fund of the United Mine Workers of America, and a governor for the Research Triangle Institute. In addition to serving on many other professional committees and corporate boards, Dr. Wilensky is a well-known speaker who has published widely on health policy, economics, and financing. She received a B.A. in psychology and a Ph.D. in economics from the University of Michigan.

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