CRS Report for Congress

Rural Hospitals

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RURAL HOSPITALS

SUMMARY

The rate of closure among rural hospitals has been increasing for several years. Most of the hospitals that have closed so far were near other facilities, and it is not clear that the closures have reduced access to care. However, there are concerns that growing financial pressures on the smallest rural hospitals could lead to more closures in the future, depriving isolated communities of essential services.

Many rural hospitals have a declining patient base that makes it difficult for them to cover the fixed costs of operation. This does not appear to be due to an oversupply of beds; on an aggregate basis there is no difference in urban and rural bed supply relative to the population. The use of small rural hospitals has dropped sharply in the 1980s. Some of the change may have resulted from changes in medical practice, such as substitution of outpatient for inpatient care. Environmental factors may have been more important. Some hospitals may be serving populations with low rates of insurance coverage, although there is no national difference in urban and rural coverage rates. Rural areas have slightly more Medicare beneficiaries than urban ones, yet rural hospitals are disproportionately dependent on Medicare. Limited evidence suggests that a key reason for declining use of rural hospitals is a pattern in which younger patients migrate to urban hospitals for care, leaving rural hospitals to treat diminishing populations, largely elderly or poor.

Financial constraints resulting from low occupancy may be compounded by limited access to capital, difficulties in meeting licensure standards and maintaining professional staff, and limitations on revenues from third-party payers, including Medicare and Medicaid. Although the 99th and 100th Congresses acted to improve the treatment of rural hospitals under Medicare's system of fixed-price payments for inpatient services, many rural hospitals are reportedly losing money on their Medicare cases. This phenomenon, too, appears to be chiefly due to falling occupancy rates, which have driven average costs per patient to higher levels than were assumed when the prices were set. Medicare pays urban hospitals at higher rates than rural ones; the most recent data indicate that the payment differentials reflect actual differences in aggregate operating costs. However, some hospitals may be adversely affected by some components of the pricing mechanism, such as adjustments for local variations in labor costs. Congress has built some protections against hospital losses into the payment system, including added payments for extraordinarily costly cases and special rules for hospitals serving isolated communities. However, these system components may not be providing sufficient assistance to some of the hospitals they were designed to help.

Federal policy for rural hospitals involves balancing efficiency against the need to maintain access to care. This may involve efforts to assist hospitals in consolidating or sharing services, or in adding new services needed by their populations. Congress has provided some assistance with this process, through rural health care transition grants and other programs. In the long term, some areas may be more economically served by new alternatives to full-service hospitals.

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NOTE

This report was originally prepared at the request of the House Committee on Appropriations. With the Committee's permission, it is made available for general congressional use.

CHAPTER 1. INTRODUCTION

Nearly half the general hospitals in the United States are in rural areas.[1] Many of these hospitals, and especially the smallest of them, face steadily increasing financial pressure as a result of a more competitive health care market, a changing environment, and other factors. The rate of closures among rural hospitals has been increasing for several years. Many that have stayed open are reporting large operating deficits. There are concerns that many more rural hospitals may face the prospect of closure in the near future, potentially compromising access to essential services in isolated areas.

This report reviews what is known about the causes and impact of the rural hospital closures that have occurred to date and examines the financial condition of rural hospitals in general. Possible reasons for rural hospitals' financial problems are investigated, along with some of the policy options for relieving those problems.

The remainder of this introduction provides basic information about the number and characteristics of rural hospitals. The next chapter reviews the trends in rural hospital closure in recent years, the characteristics of closed hospitals, and some of the explanations that have been offered for the rising rate of hospital closure. It also examines the potential impact of hospital closure, both on access to health care and on the economy of the surrounding community.

Chapter 3 looks more broadly at the financial condition of rural hospitals and at some of the factors contributing to fiscal pressures on these hospitals. Particular attention is paid to the problem of steadily declining inpatient admissions at rural hospitals, and to some of the environmental or other changes that may explain this decline. The chapter also examines other possible problems, including constraints on revenues from public and private insurers, limited access to necessary capital, difficulties in meeting licensure standards, and problems in recruiting professional staff.

Chapter 4 reviews the issues surrounding Medicare reimbursement policies for rural hospitals. The chapter provides a basic introduction to Medicare's fixed-price prospective payment system (PPS) for inpatient hospital services and examines the impact of PPS on hospitals in general and rural hospitals in particular. Contentions that specific components of the rate-setting system may discriminate against rural hospitals are considered, along with proposals for changing the system to increase reimbursement to some or

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[1]Throughout this report, the terms "urban" and "rural" refer to areas classified as metropolitan or nonmetropolitan, respectively, under the Office of Management and Budget's rules for establishing metropolitan statistical areas (MSAs). This is the classification used by Medicare's hospital payment system and in most available data on hospitals. However, there are urbanized areas and small cities outside MSAs, while some counties within MSAs may be partly rural. Some concerns about the use of MSA boundaries to define urban and rural hospitals are discussed in Chapter 4.

all rural facilities. Finally, the chapter examines Medicare's special payment policies for isolated hospitals, along with options for extending these or other payment exceptions to different kinds of rural hospitals.

Finally, Chapter 5 considers the problem of balancing pressures for efficiency in an era of rising health care costs with the need to maintain access to health services in rural areas. The chapter reviews the concepts of efficiency underlying Medicare reimbursement policies and explores other ways of promoting the efficient delivery of essential health care services in rural areas, including possible innovations in the structure of the rural health care system.

Characteristics of Rural Hospitals

Table 1.1 compares rural and urban acute general hospitals in the United States in 1987.

TABLE 1.1. Rural and Urban Hospitals, 1987

	Rural	Urban
Number of hospitals	2,599	3,012
Number of beds	216,921	741,391
Average number of beds	83	246
Total admissions (000s)	6,000	25,601
Total inpatient days (000s)	43,754	183,261

Source: American Hospital Association. Hospital Statistics, 1988. Chicago. 1987.

Although 46.3 percent of the Nation's non-Federal acute general hospitals are rural, they account for only 26.1 percent of total hospital beds. On average, they have 83 beds, one-third as many as the average urban hospital. Their share of all inpatient hospital admissions is 19.0 percent, less than their share of beds. Their share of inpatient days is marginally higher, 19.2 percent. This is because, on average, their patients remain in the hospital slightly longer. As a group, however, rural hospitals have lower occupancy rates; more of their beds are vacant on any given day. (Trends in rural hospital occupancy rates are discussed in Chapter 3.)

Table 1.2 shows the breakdown of rural hospitals in 1986 by size and by geographic region.

TABLE 1.2 Rural Hospitals by Number of Beds and Geographic Region, 1986

	Number	Percent
Total	2,638	100.0%
Number of beds:		
6-24	175	6.6%
25-49	809	30.7
50-99	908	34.4
100-199	576	21.8
200+	170	6.4
Census region:		
New England	85	3.2%
Middle Atlantic	101	3.8
South Atlantic	352	13.3
East North Central	358	13.6
East South Central	307	11.6
West North Central	583	22.1
West South Central	439	16.6
Mountain	255	9.7
Pacific	158	6.0

NOTE: The nine census regions are as follows. *New England:* Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont. *Middle Atlantic:* New Jersey, New York, Pennsylvania. *South Atlantic:* Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia. *East North Central:* Illinois, Indiana, Michigan, Ohio, Wisconsin. *East South Central:* Alabama, Kentucky, Mississippi, Tennessee. *West North Central:* Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota. *West South Central:* Arkansas, Louisiana, Oklahoma, Texas. *Mountain:* Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming. *Pacific:* Alaska, California, Hawaii, Oregon, Washington.

Sources: Bed size from American Hospital Association. Profile of Small or Rural Hospitals: 1980-86. Chicago. 1988. Regional distribution from American Hospital Association. Hospital Statistics: 1987. Chicago. 1987.

Over one-third of the rural hospitals have fewer than 50 beds; nearly three-quarters have fewer than 100 beds. By comparison, only 23 percent of hospitals in urban areas have fewer than 100 beds. Rural hospitals are concentrated, as would be expected, in the South and South Central and the North Central regions of the country, the areas with the largest rural population.

Finally, rural hospitals are more likely than urban ones to be controlled by State or county governments or other local government bodies, such as "hospital districts," areas that pay a special tax to support the hospital. Of all non-Federal rural acute hospitals in 1987, 40 percent were government controlled; the remainder were private non-profit or investor-owned facilities. Only 16 percent of urban hospitals were owned by State or local government.

CHAPTER 2. RURAL HOSPITAL CLOSURES

The number of hospital closures, and especially community hospital closures, has increased markedly in the last few years.[2] The rising rate of closures of small rural hospitals has received particular attention, because of concerns that rural residents may be left without ready access to essential services.

This chapter examines the number of closures in recent years and the characteristics of closed hospitals, along with some of the explanations for the closures offered by the hospitals themselves. It then reviews the potential impact of a rural hospital closure on access to health care, overall health expenditures, and the economy of the community the hospital served.

Number of Rural Hospital Closures

The standard source of information on hospital closures is a listing maintained by the American Hospital Association (AHA) on the basis of a year-end survey. Table 2.1 shows the annual counts of closures for 1976 through 1988, including closures of specialized facilities such as psychiatric or rehabilitation hospitals.[3] It should be noted that AHA counts as closed any community hospital that ceases to provide acute inpatient care, even though the facility may continue in operation as a specialized hospital (such as a psychiatric or rehabilitation facility) or may become some other kind of health facility, such as a nursing home or an outpatient clinic.

As the table indicates, community hospital closures were also high in the mid-1970s, dropped considerably in the early 1980s, then rose again to their current peak. For the last 3 years, more rural than urban hospitals have closed. Of the 2,674 rural hospitals open at the end of 1985, 4.5 percent have closed. Of 3,058 urban hospitals open at the end of 1985, 3.6 percent have closed.

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[2]A community hospital is a short-stay, acute care facility, as opposed to hospitals that provide chronic care or that are more specialized, such as psychiatric or rehabilitation hospitals. The term also excludes general hospitals operated by the Federal Government.

[3]AHA's survey did not begin until 1980. The figures for 1976-80 are from another source, which does not separate urban and rural hospitals for individual years, but only gives total closures; separate urban and rural counts were available for the full period 1976-80.

TABLE 2.1. U.S. Hospital Closures, 1976-1988

	Community					
	Urban	Rural	Total	% Rural	Non-community	Total
1976	---	---	52	---	18	70
1977	---	---	62	---	13	75
1978	---	---	37	---	16	53
1979	---	---	33	---	9	42
1980	---	---	42	---	14	56
Total, 1976-80	148	78	226	34.5	70	296
1981	16	11	27	40.7	16	43
1982	9	14	23	60.9	29	52
1983	18	7	25	28.0	10	35
1984	27	18	45	40.0	31	76
1985	28	21	49	42.9	12	61
1986	35[a]	37	72[a]	51.4	12	84
1987	39	40	79	50.6	17	96
1988	36[a]	44[a]	80[a]	55.0	21	98
Total, 1981-88	207	190	397	47.9	148	545

a/ Revised per letter from Carol M. McCarthy, President, American Hospital Association, to Representative Fortney P. Stark, Chairman, Health Subcommittee, House Ways and Means Committee, March 22, 1989.

Source: 1976-1980 data from Mullner, Ross, Calvin S. Byre, and Joseph D. Kubal. Hospital Closure in the United States, 1976-1980: A Descriptive Overview. Health Services Review, v. 18, n. 3, fall 1983, p. 437-450. 1981-1988 data from American Hospital Association.

A recent review of AHA's 1988 counts indicated that, of 81 community hospitals reported as closed in that year, 7 were actually still functioning as acute general hospitals in early 1989, 1 had been out of business since 1986, and another 15 were still in operation but not providing acute inpatient care.[4]

[4]AHA Closure List Questioned. Modern Healthcare, v. 19, n. 9, Mar. 3, 1989, p. 6.

In response to congressional inquiries about these reports, AHA reviewed its list and agreed that three hospitals had reopened in the final week of 1988 or in 1989, after its survey was complete. It also acknowledged that one of the closed hospitals had actually closed in 1986. At the same time, AHA reported that it found three other hospital closures in 1988 not previously included on the list.[5] The figures for 1986 and 1988 shown in table 2.1 have been corrected in the light of AHA's findings.

A second criticism that has been made of the AHA closure counts is that they describe as closed facilities that are actually operating, but not as acute hospitals. Some kinds of conversions may leave a community with diminished access to basic health services. A hospital that turns into a rehabilitation facility is no longer providing access to acute care for its community, though it may be meeting broader regional needs.[6] However, if the hospital turns into an outpatient center, capable of providing routine care and stabilizing patients in an emergency, it is still meeting at least some of the basic needs of the community. This distinction has a significance that goes beyond the mere accuracy of the AHA counts. It points to an important issue in rural health care policy, whether basic access to care can be preserved in areas where operation of a full service hospital may not be practical. This question will be discussed in the final chapter of this report.

Characteristics of Closed Hospitals

Table 2.2 shows the rural hospitals that closed in the years 1980 through 1985 by ownership, size, and location, along with the closure rate for each group of hospitals. (These are not AHA data and differ slightly from the figures shown in table 2.1.) The closure rate measures the likelihood that a hospital of a given kind that was open at the start of 1980 would be closed by the end of 1985. As the table shows, investor-owned hospitals had a much higher closure rate than nonprofit or government hospitals. In terms of bed size, the very smallest hospitals, those with 6 to 24 beds had the highest closure rate; the likelihood of closure descends steadily with size. Geographically, closures were concentrated in the East and West South Central regions; however the two North Central regions also saw high numbers of closures.

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[5]Letter from Carol M. McCarthy, President, American Hospital Association, to Representative Fortney P. Stark, Chairman, Health Subcommittee, House Ways and Means Committee, March 22, 1989.

[6]Such a facility may still have a positive impact on the community's economy and employment base, a point to be discussed further below.

TABLE 2.2. Closures of Rural Community Hospitals by Ownership, Bed Size, and Location, 1980-85

	Closures, 1980-85	Closure rate[a]
Ownership:		
Private non-profit	36	2.6%
Investor-owned	28	12.8
State and local government	22	1.7
Bed size:		
6-24	18	8.2%
25-49	47	5.7
50-99	16	1.6
100-199	5	0.8
Census region:		
New England	4	3.5%
Mid-Atlantic	5	3.5
South Atlantic	8	2.0
East North Central	11	3.0
East South Central	15	4.7
West North Central	12	2.0
West South Central	21	4.6
Mountain	5	2.0
Pacific	5	2.5
Total	86	3.0

a/ The closure rate for a class of hospitals is the number of hospitals in that class closing in 1980-85 as a percent of the number of hospitals in that class at the start of 1980.

Source: Mullner, Ross M., and David McNeil. Rural and Urban Hospital Closures. Health Affairs, v. 5, n. 3, fall 1986, p. 131-141.

Data for 1988 show a similar pattern. Investor-owned hospitals accounted for a disproportionate number of rural hospital closures, 44 percent. Closures were highest among the very smallest hospitals, those with fewer than 50 beds. Of particular importance, however, is the regional distribution of recent closures. Rural hospitals closing in 1988 were concentrated in one of the four major census divisions, the South. Hospitals in the South Atlantic, East South Central, and West South Central regions accounted for 42 percent of the rural hospitals open at the start of 1988, but accounted for 70 percent of the rural closures during the year. Texas alone had nine rural closures, followed by Alabama and Louisiana with five each and West Virginia with four.

Factors Associated with Closure

Two recent studies have examined factors that are statistically associated with rural hospital closure.[7] The first, by Mayer et al., reviewed hospitals closing in 1970-80, while the second, by Mullner et al., studied hospitals closing in 1980-87. The factors they identify are not necessarily causes of closure, but characteristics that differentiate closed facilities from those that remain open. The following listing distinguishes between internal factors, those related to the facilities themselves, and external factors, those reflecting the environment in which hospitals operate. (Note that not all of the factors were considered in both studies.)

Internal Factors

Size. Smaller hospitals were more likely to close than larger ones even in the 1970s, as well as in this decade.

Ownership. Both studies found that for-profit facilities were most likely to close. Mullner also found that private non-profit hospitals were more likely to close than those operated by State and local government, and that hospitals that were members of a multihospital system were less likely to close.

Facilities and services. Hospitals that closed offered, when open, fewer facilities or services than other hospitals and were less likely to be accredited by the Joint Commission on Accreditation of Health Organizations (JCAHO, formerly JCAH), the standard hospital certification body. Mullner also found

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[7]Mayer, Jonathan D., et al. Patterns of Rural Hospital Closure in the United States. Social Science and Medicine, v. 24, n. 4, 1987, p. 327-334. Mullner, Ross M. et al. Unpublished study cited in American Hospital Association. Rural Hospital Closure: Management and Community Implications. Chicago, 1989.

that hospitals were more likely to close if they operated a skilled nursing facility or other long-term care unit in conjunction with the acute hospital.[8]

Service volume. Mayer found that closed hospitals had, before closing, fewer admissions, fewer births, and lower occupancy rates. For hospitals in isolated counties, lower levels of outpatient per thousand residents were also correlated with closure.

Payer mix. Mayer found that, in isolated counties, hospitals with a higher proportion of Medicare and Medicaid patients were less likely to close. (It should be noted that, in the 1970-80 period covered by Mayer's study, Medicare and Medicaid were paying hospitals' full reasonable costs.)

External Factors

Location. Mayer found that hospitals in counties adjacent to an MSA were more likely to close during 1970-80 than those in more isolated rural counties. Mullner was unable to confirm this finding for closures in the 1980-87 period. Mayer also found a higher closure rate in more urbanized counties, those with a core community with more than 20,000 residents.

Competition. Both studies found that hospitals in more competitive situations were more likely to close. (Mayer expresses competition in terms of the number of competing hospital beds per thousand residents in the county; Mullner simply uses the count of hospitals in the county.)

Population characteristics. Mayer found a number of population characteristics associated with closure in isolated counties, including the rate of poverty, the extent to which the hospital's service area depended on agriculture, and the proportion of Hispanics in the population. (The latter observation is thought to reflect both lower levels of insurance among Hispanics and the concentration of closures in the West South Central region.) Declining population in a county was also correlated with closure.

Causes of Closure: A Preliminary Model

The statistical studies may assist in developing a portrait of a typical closed rural hospital and may suggest some hypotheses about the reasons these hospitals closed. At this time, however, there is little beyond anecdotal evidence to provide a fuller picture of why some hospitals fail. Still, some of

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[8]This does not mean that operating such a unit actually causes failure. One possibility is that the long-term care unit was opened in an attempt to revive a facility already failing. Another is that some facilities providing both types of care may have decided to abandon the money-losing acute side of their business while keeping the more successful long-term side operating.

these accounts, such as Taggart and Mullner's recent survey of administrators of closed hospitals, are informative.[9]

Taggart and Mullner interviewed 29 (of a possible 40) administrators of rural hospitals closing in 1987. The administrators were asked for "key indicators" of hospital closure and were also asked about "other indicators." The key indicators reported tended to be symptoms, rather than causes, of hospital failure. Those mentioned most often were insufficient cash flow, employee lay-offs, and a high bad-debt ratio; all these are signs one would expect to find in any business about to collapse. The "other indicators" tell more about the trends in the hospitals' operations that led to closure. Table 2.3 shows the indicators cited by 30 percent or more of the administrators. (Indicators reported by fewer than five administrators have been dropped from the list.)

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[9]Taggart, Mary P., and Ross M. Mullner. Rural Hospital Closure. The Perceptions of Former Administrators. American Hospital Association. Rural Hospital Closure: Management and Community Implications. Chicago, 1989.

The Congressional Research Service has completed its own telephone survey of former administrators, medical staff, and other persons associated with small rural hospitals. The findings are expected to be available in May 1989.

TABLE 2.3. Indicators Related to Hospital Closure as Reported by Administrators of Rural Hospitals Closed in 1987

	Number reporting	Percent reporting
Fewer admissions	28	96.6
Fewer days of care	28	96.6
Annual operating losses	25	86.2
Competition from other hospitals	20	69.0
Reduced size of medical staff	19	65.5
Lack of generosity of Medicaid program	13	44.8
Lack of competency of top management	12	41.4
Service cutbacks arising from Medicare PPS	11	37.9
Employee cutbacks arising from Medicare PPS	10	34.5
Unprofitable ancillary services	10	34.5
Loss of key staff	10	34.5
High numbers of uninsured patients	9	31.0

Source: Taggart, Mary P., and Ross M. Mullner. Rural Hospital Closure. The Perceptions of Former Administrators, in American Hospital Association. Rural Hospital Closure: Management and Community Implications. Chicago, 1989.

The most frequently cited indicators describe a standard scenario of hospital failure. Steadily declining admissions and occupancy result in a loss of revenue, and a consequent inability to meet fixed costs of operation. Often the occupancy rate is dropping because of competition, loss of patients to other hospitals. Administrators cited other reasons for falling occupancy: migration of the population, economic depression, and more stringent preadmission review for Medicare patients. All these factors will be discussed further in the next chapter. The key point is that loss of volume is the single element all the closed hospitals have in common.

Hospitals, like any other business enterprise, have two kinds of costs: fixed and variable. Fixed costs are the costs a hospital incurs to remain in operation regardless of whether its beds are empty or full. A hospital must, for example, maintain certain minimum staffing levels regardless of how many patients it is treating on a given day. Variable costs are those that rise and fall depending on the number of patients the hospital is treating and the

types of treatments they receive. For example, if the hospital is half full, it only needs to make half as many meals as would be required at full occupancy.[10]

Ideally, the revenues from an individual patient will be sufficient to cover the variable cost associated with that patient and also a proportionate share of the hospital's fixed costs. If a 100 bed hospital has 100 patients, each must contribute just 1 percent of the fixed costs. If the same hospital has just 50 patients, each must contribute twice as much. Hospital volume would not matter if a hospital could continually raise its charges to ensure that its fixed costs would be met by whatever number of patients it had. However, if there are limits on patients' ability to pay or the willingness of insurers to meet additional charges, falling volume will eventually result in an inability to meet fixed costs.

Maintaining adequate volume is thus only half the equation. The patients the hospital is treating must generate adequate revenue. Some, but not all, hospitals reported problems stemming from inadequate reimbursement by third-party payers, such as Medicare and Medicaid.[11] Because Medicare and many State Medicaid programs have shifted to fixed price reimbursement systems, hospitals with declining volume cannot make up their fixed costs by raising their charges. This does not necessarily mean that the prices set by these programs are inherently unfair.[12] They may be sufficient to meet the costs of a hospital with an average number of patients. However a hospital that cannot maintain the average load, one whose occupancy drops below the levels anticipated when the prices were set, will begin to lose money. The situation is compounded when some patients have no insurance at all. The one-third of hospitals whose administrators reported high numbers of uninsured patients not only had to recover their fixed costs from the remaining patients who were able to pay; they also had to recover the variable costs incurred by the uninsured patients. Finally, some hospitals in highly competitive areas may face pressure to grant discounts to some private

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[10]Some costs are semi-variable, increase in steps. For example, if one nurse can care for five patients, the hospital must hire a second nurse when the sixth patient arrives, but need not hire a third nurse until the eleventh patient is admitted. Note, however, that the second nurse is not being used at peak efficiency until the patient count hits ten. The inability to adjust these semi-variable costs to fluctuations in volume can be a source of losses. This issue is considered further in the next chapter.

[11]Taggart and Mullner report two different effects of Medicare payment expressed by administrators. It is not clear, from the data as published, whether the two different Medicare responses were given by different administrators or whether some administrators gave both responses.

[12]Concerns about the fairness of Medicare rates are discussed in Chapter 4.

insurers. (All these reimbursement problems will be examined further in the next two chapters.)

While this volume/cost squeeze appears to be the basic motif of rural hospital problems, it is not necessarily the immediate cause of failure. Hospitals may have reserves or public tax support and may be able to continue for some time with steadily declining admissions and revenues.[13] Sometimes the actual closure will be precipitated by a single event that is not directly related to the financial trends, although it may ultimately stem from the basic financial problem.

For example, a third of the administrators mentioned "loss of key staff" as a factor, confirming other anecdotal accounts that some hospitals close when they are no longer able to meet minimum staffing requirements. If a hospital cannot attract night shift nurses, it cannot continue as a full-service acute hospital regardless of its financial condition. Another indicator that may or may not be directly related to financial problems is malpractice litigation, cited by three administrators as a factor in closure. This may reflect an inability to maintain quality standards with falling revenues; on the other hand, the hospitals may simply have suffered from random accidents, too many lawsuits in one year.

Each hospital closure is a unique story. The stories suggested by the Taggart and Mullner survey could be supplemented by numerous additional anecdotal accounts. Multiplying these stories can reveal specific factors in individual hospital failures, but is unlikely to provide any other general characteristic predictive of hospital failure. The underlying volume/cost problem appears to affect virtually all closed hospitals, but some additional problem, some circumstance peculiar to an individual hospital, may make the difference between closure and continued operation for any particular facility.

One consequence of the uncertain tie between financial status and hospital closure is that we cannot reliably predict how many hospitals are in jeopardy of closing in the near future. Some hospitals that are financially sound may nevertheless close for idiosyncratic reasons. Some financially troubled hospitals may survive, perhaps because a determined community is prepared to pay additional taxes to keep it open.

For the purposes of policy making, however, it is reasonable to assume that hospitals facing continued loss of volume and falling revenues cannot sustain themselves indefinitely. The situation of rural hospitals has become an issue, not because of the random closures that have occurred so far, but

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[13]That many of the closed hospitals contacted in the Modern Healthcare survey cited earlier continued in operation as some other kind of health facility suggests that some of them were financially solvent on the day they discontinued acute hospital operations.

because of a perception of growing fiscal pressure on the entire rural hospital system.

The next chapters of this report therefore focus on the financial pressures currently facing rural hospitals, without further investigating the special circumstances of hospitals that have already closed. How widespread are the financial problems? What is causing them, and what can be done?

First, however, it is necessary to consider whether anything needs to be done. Why does it matter that small rural hospitals are closing? What are the consequences of the closures that have occurred so far, and what would be the effect of additional closures? The remainder of this chapter discusses what is known about the impact of hospital closures on access to health care and on local economies.

The Impact of Hospital Closure

Small rural hospitals are closing at a time when the Nation's hospitals are, in the aggregate, underutilized. Overall occupancy rates are at a record low, as a result of long-term trends in medical practice, as well as pressures from insurers and regulators, that have led to fewer inpatient admissions and shorter stays. Some people say that there is an excess of hospital beds, especially in rural areas, and that some hospitals will inevitably close as we strive to make our health system operate efficiently. Others say that, while this may be true, the wrong hospitals are closing. There are concerns that the closure of small rural hospitals will result in diminished access, possibly with few offsetting savings to patients or insurers, and may also damage already vulnerable rural economies. This section reviews the very limited evidence available on the impact of hospital closure on access to care and on local economies.

Impact on Access to Care

A hospital closure could affect access to care in two ways. First, obviously, it could deprive a community of ready access to hospital services. Second, it could cause the community to lose access to other kinds of services. For example, a community may be unable to attract physicians or other health professionals if it has no hospital.

Access to hospital services. Little is known about the impact of past hospital closures on access to hospital care. Accounts in the popular press have focused on cases in which the closure of a rural hospital left the residents of its service area having to travel great distances for essential care. However, it is not clear that these problems are universal, or even typical, consequences of closure.

As was suggested earlier, many of the hospitals that have closed so far were in competitive situations. They were losing business to other hospitals

nearby. The studies by Mayer et al. and Mullner et al. cited above, found that the presence of competing hospitals was consistently correlated with hospital closure throughout the years from 1970 through 1987.

Mullner and McNeil's study of closures in the 1980-85 period found that, of 85 rural counties that had a community hospital closure in that period, 79 counties still had a community hospital after the closure.[14] However, counties may not be the best unit of measurement. Some counties in western States span great distances, and a surviving hospital could be far from many residents.

Overall, 41.9 percent of rural hospitals are within 15 "crow-fly" miles of another hospital. Another 32.3 percent are within 25 road miles of another hospital.[15] Whether these are reasonable distances to travel for hospital care is a subjective judgment. How far people can travel without risking dangerous delays in care clearly depends on the types of services they are seeking. Longer travel times may be more acceptable for elective surgery than for emergency or obstetric care. In addition, some segments of the population, such as the poor and the elderly, may be less mobile than others.

Moreover, figures on the distance between hospitals cannot indicate the real effect closures might have on the distance some persons must travel for care. If Hospital B is 25 miles east of Hospital A, and Hospital A closes, people who lived west of Hospital A will need to travel more than 25 miles for care.

Still, the figures suggest that not all hospital closures necessarily deprive communities of essential services. At least some hospitals may be expendable. Of the administrators surveyed in the Taggart and Mullner study cited earlier, 62 percent did believe that closure of the hospital had reduced access for the community; a higher proportion, 72 percent, reported that access had been reduced for the elderly. However, 31 percent of the administrators believed that hospital closure would have an overall positive impact on the community. These administrators felt that the community had too many hospital beds and that the closure would reduce reliance on outdated facilities.

This minority response raises an important but controversial issue in rural health care: access and quality are not necessarily synonymous. Not

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[14]Mullner, Ross M., and David McNeil. Rural and Urban Hospital Closures. Health Affairs, v. 5, n. 3, fall 1986, p. 131-141.

[15]SysteMetrics/McGraw Hill. Small Isolated Rural Hospitals: Alternative Criteria for Identification in Comparison with Current Sole Community Hospitals. Report prepared for the Prospective Payment Assessment Commission. Technical Report No. E-87-11. Washington, June 1988. Road miles were calculated only for hospitals more than 15 "crow-fly" miles from another hospital.

all hospitals are equal. For at least some types of care, it may be preferable to travel a greater distance to a better equipped facility. Some rural residents, or their physicians, may already have reached this conclusion and abandoned their local facility for all except the most urgent services. The less mobile patients left behind may sometimes be receiving substandard care. In at least some cases, it might be more helpful to provide these patients with transportation than to leave them with an accessible but inadequate or obsolete local facility. These questions will be considered at greater length later in this report.

Even if it is concluded that some hospitals might be closed without ill effects, there may be no guarantee that hospitals will conveniently close in patterns that minimize disruption of access. If a small town with two underutilized hospitals lost one of them, the other might have an increased patient load and be able to improve its facilities. If closures occur on an unplanned basis, however, in response to unpredictable financial pressures, the town might lose both hospitals.

The chances of this occurring may depend on the strength of the correlation between competition and hospital closure. So far, it appears that the most isolated hospitals, and hence those most critical for maintenance of access, have been least likely to close. This may be because they receive greater levels of tax subsidies or other support from the communities that rely on them. It is also possible that at least some isolated hospitals have been more successful in maintaining volume; that is, fewer of the patients in their service areas may have drifted away to other hospitals.

In summary, if future hospital closures resemble those that have occurred in the recent past, the effect on access to hospital care may not be a dramatic one. On the other hand, if more isolated hospitals should begin to close, the impact may be much more serious.

Effect on other health services. One concern that is often expressed is that loss of a hospital will lead to the loss of other types of health services. It is thought, for example, that new physicians will not move to communities without a hospital, and that current physicians will leave if the hospital closes. It seems intuitively likely that physicians trained in hospitals and used to the modern medical technology hospitals can offer would prefer to practice in a place where they have ready access to a hospital. However, available evidence does not confirm any absolute connection between practice location decisions and the availability of hospital services.

One of the goals of the Federal Hill-Burton program, which from 1946 to 1974 was a major source of funding for hospital construction and modernization, was to attract physicians to rural areas by ensuring that modern hospitals would be available there. The assumption was that physicians would follow the hospitals. However, a study of the impact of the Hill-Burton program found that, while it did succeed in producing a more equitable distribution of hospital beds, it had no effect on the distribution of

physicians.[16] (The effects of Hill-Burton will be discussed further in Chapter 3.)

More recently, Newhouse et al. studied the distribution of physicians in small towns and cities.[17] Although 40 percent of towns with a population of 2,500 to 5,000 had no hospital, 92 percent of these towns had a physician in 1979. Of towns with a population of 5,000 to 10,000, 20 percent had no hospital, yet 98 percent had a physician. This would suggest that towns without hospitals can attract physicians.

It is possible, however, that the presence of a hospital makes more difference to some physicians than to others. The towns with hospitals might attract the physicians who regard a hospital as essential, while other physicians settle more randomly. If this were the case, then loss of the hospital could indeed mean that a town would lose established physician practices. Other physicians might or might not move into the market if the established physician practices departed. Further study of the factors affecting practice location decisions is needed.

Even if rural hospitals did prove to be an important factor in physician location decisions, physicians might be attracted by specific services available in the hospitals, rather than by the facilities themselves. For example, it might be very important to a physician to have access to laboratory and x-ray services, or to an ambulatory surgery suite. However, these services could be provided on an outpatient basis without maintaining a full-service inpatient hospital. Some communities are experimenting with ways of continuing these essential ancillary services after a hospital has closed, in order to retain or recruit physicians. These efforts will be discussed further in Chapter 5.

The Access/Efficiency Trade-off

One rationale for allowing hospitals to close is the possibility of attaining greater efficiency in the health care system. In this view, there may be a trade-off between marginal reductions in access to care and the savings to government, insurers, and patients resulting from closing underutilized facilities. To evaluate these claims fully, one would have to be able to put a price tag on access to care, measure the attributed "cost" of denied or delayed services against the savings from reducing underutilized capacity. Such a balancing would necessarily be a subjective one. However, some analysts have

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[16]Clark, Lawrence J., et al. The Impact of Hill-Burton: An Analysis of Hospital Bed and Physician Distribution in the United States: 1950-1970. Medical Care, v. 23, n. 5, May 1980, p. 532-550.

[17]Newhouse, Joseph P., et al. Where Have All the Doctors Gone. Journal of the American Medical Association, v. 247, n. 17, May 7, 1982, p. 2392-6.

suggested that the balancing is unnecessary, because the savings from closing hospitals are minimal or non-existent.

Estimates of savings may vary depending on assumptions about what happens to a hospital's patients after the hospital closes. Three basic assumptions are possible:

- Patients who would have used the hospital's services are unable to obtain care. Savings result from a reduction in the amount of services received.

This outcome, while possible, is presumably an undesirable one, unless the services that are forgone are unnecessary ones.

- Patients who would have used the hospital's services receive the same services at another hospital comparable to the one that closed. For example, former patients of one small rural hospital are treated at another small rural hospital. Savings could result if there is consolidation of duplicative services.

This outcome might be more acceptable. It seems intuitively clear that savings would result from consolidation of two similar, underutilized facilities. However, some rural hospital advocates cite studies that argue that the resulting efficiencies are in fact minimal. For example, Schwartz and Joskow concluded in 1980 that closing 7 percent of the hospital beds in the Nation would reduce total hospital expenditures by just 1 percent. Even these savings would be offset by increased travel costs (as well as the unmeasurable costs of delayed treatment).[18] However, this very low savings estimate is based on national hospital utilization rates from the 1970s, when the average hospital had a much higher occupancy rate than is characteristic of rural hospitals today. Much greater savings would be probable if small rural hospitals with very low occupancy rates were combined, because the combined facility could spread its fixed costs over a larger number of patients.

- Patients who would have used the hospital's services go to facilities different from the one that closed. For example, former patients of a small rural hospital might go to a larger rural hospital or go to a nearby urban hospital. Savings depend on whether higher or lower cost providers are used.

Those who argue for this model usually cite a 1983 study by Donald S. Shepard, who found that closure of a small hospital near Boston would actually increase costs, as patients shifted to teaching hospitals that provided

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[18]Schwartz, William B., and Paul L. Joskow. Duplicated Hospital Facilities: How Much Can We Save by Consolidating Them? New England Journal of Medicine, v. 303, n. 25, Dec. 18, 1980, p. 1449-1457.

more elaborate treatment.[19] However, Shepard explicitly acknowledged that his findings might not be generalizable to rural areas, where former patients of a closed hospital might have ready access only to a hospital that closely resembled the one that had closed.

The likelihood of savings from rural hospital closure, then, may depend on location. Patients in areas on the fringes of an MSA might well travel to the urban center for care. This would mean, under Medicare in particular, that services previously purchased at rural rates would now have to be paid for at urban rates. The same cost increase would occur if patients in more distant counties shifted from a regular rural hospital to a designated rural referral center, which is also paid higher rates under Medicare. On the other hand, if patients went from one small rural hospital to another nearby, Medicare would pay neither more nor less, because the rates would be uniform for the two facilities. Other payers, who may not pay at fixed predetermined rates, might realize savings because of the efficiency resulting from consolidation.

Community Economic Impact of Hospital Closure

The closure of a rural hospital may have an effect, not only on access to care and health care cost, but also on the economy of the community it served. The most direct impact is on employment, especially employment of unskilled service workers. Over the long term, the absence of a hospital may diminish the community's ability to attract or retain business and may even reduce the community's sense of its own identity.

Employment and other direct effects. A rural hospital may be the single largest employer in its area. Moreover, because both employees and the hospital itself purchase other goods and services, a hospital generates indirect employment and other income for the area it serves. Although there have been a number of studies of the economic impact of rural hospitals, the most comprehensive is that of Christianson and Faulkner, who studied hospitals' contribution to the economies of 57 rural counties in the West North Central and Mountain States.[20] They found that salaries of hospital employees accounted for an average of 1.36 percent of the income in these counties, and 2.35 percent of the nonfarm income. Indirect effects of the hospital's presence in a county generated, depending on the assumptions used, from 1.54 to 2.37 percent of county income. The highest estimate for one county was 7.08 percent; loss of the hospital in this county would have meant loss of $4.5 million in county income in 1981 dollars.

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[19]Shepard, Donald S. Estimating the Effect of Hospital Closure on Areawide Inpatient Hospital Costs: A Preliminary Model and Application. Health Services Research, v. 18, n. 4, winter 1983, p. 513-549.

[20]Christianson, Jon B., and Lee Faulkner. The Contribution of Rural Hospitals to Local Economies. Inquiry, v. 18, n. 1, spring 1981, p. 46-60.

To say that a hospital can generate a significant proportion of a county's income may recall the legend of the town where all the citizens made a living by taking in one another's laundry. Unless a hospital is drawing patients from beyond the county line, the use of its services would in theory have no income-producing effects for the county, but would merely involve the transfer of income from one set of residents (the users) to another (the employees).[21] However, this may not be so if the costs of the services are being funded through sources outside the county. The hospital may serve as a conduit to import wealth in the form of insurance payments, if the residents are paying less for their insurance coverage than the value of the services they obtain. This could be true of the public insurance programs, such as Medicaid and Medicare, if rural residents are contributing relatively less than urban ones to the cost of these programs.[22] For private insurance, a net inflow of funds could occur if county residents obtained coverage through out-of-county employment.

One particular concern about the potential economic effects of rural hospital closure is the likelihood of high unemployment among unskilled hospital workers. Nurses and other professionals may find employment elsewhere. In some areas, however, the hospital may be the only major employer of unskilled non-agricultural workers. In the late 1970s, when some States or cities were deliberately closing unneeded hospitals, some developed programs to find employment for the displaced workers. However, these programs operated in urban areas, where other institutions were available to accept the workers. Closure of some rural hospitals could result in long-term unemployment for some of their workers.

It should be noted that the loss of employment and other economic effects occur if the hospital closes completely, instead of turning into some other kind of facility. For example, if an acute hospital turns into a nursing home, it may employ nearly as many workers as before. There might be cases in which a successful alternative facility contributed more to a community's economy than a failing hospital.

Effects on development and community life. In addition to its immediate impact on a local economy, a hospital closure may have long term effects on economic development. Loss of a hospital could mean problems in attracting new residents and businesses or in retaining those already present. While these impacts are not readily translated into dollar terms, they may

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[21]In fact, because the hospital must purchase some supplies and services outside the county, it ought to produce a net loss of income.

[22]Christianson and Faulkner found that a hospital's contribution to county income was inversely related to its degree of dependence on Medicare and Medicaid. However, they were including intra-county transfers as income; in addition, they do not appear to have corrected for the inverse relation between Medicare/Medicaid dependence and hospital size (see Chapter 3).

ultimately prove to be the most serious effect of hospital closure on persons in small rural communities. To many people, the presence of a hospital in a community is as natural and essential as the presence of schools and a fire department. While the town may survive the loss of any of these institutions, each such loss may diminish the sense of the residents that their town is a community at all.

CHAPTER 3. THE CONDITION OF RURAL HOSPITALS

While rural hospital closures have increased in the late 1980s, the number of hospitals closing is still relatively small, and it is not clear that many of the closures had a significant effect on access to care. The condition of rural hospitals has emerged as a central health policy issue because of the fear that the number of hospital failures may be accelerating. The concern is that, with mounting fiscal pressures on all rural hospitals, the present trickle of sporadic and random closures will become a general trend of rural hospital failure, depriving wide areas of access to essential care.

This chapter reviews the financial condition of small rural hospitals and explores some of the possible reasons for the spiral of declining volume and rising costs in which some of them find themselves. In particular, it investigates possible explanations for declining occupancy, including environmental factors, the extent of health insurance coverage, and patterns of care-seeking behavior. The discussion then turns to some of the other problems rural hospitals are facing, including difficulties in sustaining adequate staffing levels and meeting other certification requirements, constraints on funding by third party payers, and inadequate access to capital.

The Financial Condition of Small Rural Hospitals

There is no way of assessing from published data the number of rural hospitals in serious financial jeopardy. Some people say the number is 600; others cite higher numbers.[23] In order to make any real assessment it would be necessary to have up-to-date cost and revenue data, as well as asset and liability information, for individual hospitals. No such data are available on the individual hospital. However, the American Hospital Association (AHA) publishes a limited amount of aggregate financial data collected from member hospitals.[24]

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[23]The often-cited estimate of 600 hospitals in danger of closing by 1990 appeared in a brochure issued by the Robert Wood Johnson Foundation in early 1987.

[24]One of the conditions under which member hospitals complete the annual AHA survey is that revenue and balance sheet data are confidential; only aggregate revenue data are released to the public, in forms AHA deems appropriate. Hospitals also report similar information to Medicare. There is a considerable time lag in the receipt and processing of these reports. Report items not used in determining Medicare reimbursement (as the revenue figures and balance sheet data are not) may be left incomplete by the hospitals and are not validated.

In the absence of fuller information, it is necessary to rely on the very limited data published by AHA. Table 3.1 shows AHA's estimates of hospitals' net patient margins in 1984 and 1986. The patient margin compares patient revenues, i.e., payments from patients or insurers, to total operating costs. It omits other sources of revenue, such as local government subsidies or private donations.[25] A positive margin means that patient revenues are sufficient to cover operating costs; a negative margin means the reverse. As the table indicates, the smallest rural hospitals had sizeable negative margins, while larger rural hospitals were doing better than their urban counterparts. AHA estimates that only 27 percent of rural hospitals with fewer than 50 beds were breaking even or realizing a profit on patient revenues in 1986. This compares to 38 percent of all rural hospitals and 47 percent of all hospitals nationally.

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[25]The margin is equal to patient revenues minus operating costs divided by revenues, then multiplied by 100. The margin, as a measure of financial performance, is different from the more familiar "profit," which is equal to revenues minus costs divided by costs, then multiplied by 100.

TABLE 3.1. Patient Margin[a], Registered Community Hospitals, 1984 and 1986

	1984	1986
Rural hospitals by bed size:		
6-24	-13.8	-20.7
25-49	-6.5	-8.6
50-99	-1.9	-2.9
100-199	+0.5	+0.3
200 or more	+0.8	+0.9
All rural hospitals	-0.9	-1.5
All urban hospitals	-1.8	-2.0
All U.S. hospitals	-1.7	-2.0

a/ Patient margin is equal to patient revenue less total operating cost divided by patient revenue.

Source: American Hospital Association. Profile of Small or Rural Hospitals: 1980-86. Chicago. 1988. Table 9.

Again, the patient margins omit any sources of hospital revenue other than direct payments by individuals or insurers. As other sources of revenue may make a substantial contribution to a hospital's operating costs, these figures do not permit an assessment of the extent to which hospitals are actually in financial jeopardy. A second measure, "total hospital margin" as opposed to "patient margin," compares revenues from all sources to operating costs.[26] Published AHA data are not sufficient to allow a computation of total margins for rural as opposed to urban hospitals, but do permit a computation of total margins by hospital size. As most of the smallest hospitals are in rural areas, these can give at least some indication of rural hospitals' financial

[26]Hospital advocates prefer patient margin as a measure of hospital financial performance. Whether non-profit or public hospitals should break even or profit from the services they render, or whether it is acceptable for these services to be subsidized by public and private efforts, is beyond the scope of this report. Total margin gives a clearer indication of whether hospitals are in such serious financial jeopardy as to be at risk of closure.

condition.[27] Table 3.2 compares patient and total margins in 1987 by hospital bed size. (It should be noted that, unlike the average margins shown in table 3.1, these are aggregate figures, reflecting the total profit or loss of all the hospitals in the category.)

TABLE 3.2. Patient Margins and Total Hospital Margins, U.S. Community Hospitals, 1987

	Hospitals	Patient margin[a]	Total hospital margin[b]
Total	5,611	-3.57%	+4.22%
Bed size:			
6-24	230	-26.07%	-6.75%
25-49	979	-11.34	-0.07
50-99	1,364	-3.07	+2.23
100-199	1,347	-1.38	+4.13
200-299	753	-0.94	+4.30
300-399	425	-2.17	+4.75
400-499	216	-2.46	+5.46
500 or more	297	-7.59	+4.22

a/ The patient margin is equal to patient revenues minus total costs, divided by patient revenues, multiplied by 100.

b/ The total hospital margin is equal to total revenues (including those from sources other than patients and insurers) minus total costs, divided by total revenues, multiplied by 100.

Source: Congressional Research Service analysis of hospital survey data reported in American Hospital Association. Hospital Statistics, 1988 Edition. Chicago. 1988. Tables 5a and 11.

As can be seen, most hospitals had negative patient margins; they lost money on patient care in 1987. All but the smallest hospitals were, on average, able to make up these losses through other sources of revenue. Only hospitals with fewer than 25 beds still had significant losses after all revenues are considered. Comparison of the differences in the two margin measures indicates that small hospitals in general were much more dependent on non-

[27]Of hospitals with 6-24 beds, 83 percent are rural; of those with 25-49 beds, 81 percent are rural.

patient revenues than larger ones. Only the very largest hospitals, those with over 500 beds, relied to a comparable extent on supplemental sources of revenue. Although the sources of this revenue cannot be determined, much of the non-patient revenue for the smallest hospitals is probably in the form of local government subsidies (larger hospitals may receive more grant revenue or have interest from private endowments). The figures suggest that the communities served by the smallest hospitals may be bearing a relatively high burden to maintain the hospitals in operation. The survival of some of these hospitals may, then, depend on the willingness or ability of their communities to continue the same level of support.

Again, the margin figures are aggregates. Some small hospitals may be doing much better or much worse. Overall, however, the numbers clearly suggest that most small hospitals are losing money, and that the smallest are suffering substantial losses. This does not mean that all of these hospitals are in imminent danger of closure. Some may be drawing on reserves, although it is unlikely that many small hospitals have large reserves. Those that are members of multi-hospital systems may be carried by those systems for some time. Finally, part of the operating cost used in computing these margins is depreciation of plant and equipment. A hospital that does not fund depreciation (set aside money for eventual replacement of the plant or equipment) is not actually spending these amounts, but merely entering them on its books as an expense. Such a hospital may have paper losses but positive cash flow. However, it may be purchasing temporary survival at the price of eventually being unable to update obsolete or outworn facilities.[28]

All of these factors mean that it is not possible to guess how many hospitals are at risk of closing or how rapidly the closures might occur. What can be said with some certainty is that small hospitals are, as a group, suffering losses at a level that cannot be sustained for very long. The apparent reason for these losses was suggested in the previous chapter. Rural hospitals are in financial distress because they have too few paying patients to cover their fixed operating costs.

Occupancy Levels, Staffing, and Costs

Occupancy levels in U.S. community hospitals have dropped from 75.6 percent in 1980 to 64.3 percent in 1986 (they rose very slightly to 64.9 percent in 1987).[29] Some of this trend is due to shorter lengths of stay for

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[28]As will be discussed in the next chapter, Medicare pays for capital costs, including depreciation, over and above the basic PPS payment. The Medicare payment is made whether or not the hospital is funding the depreciation.

[29]Except for table 3.3, all the information in this section is derived from the annual volumes of American Hospital Association. Hospital Statistics. Chicago, 1981-88.

each patient admitted. The average hospital stay dropped from 7.6 days to 7.1 days in this period. Much more important, however, was an 11 percent drop in admissions, from 36.1 million in 1980 to 32.3 million in 1986. Much of this drop was due to changes in medical practice, such as the increasing performance of surgery or complex diagnostic tests on an outpatient basis. The growth in utilization controls by insurers, such as requirements that non-emergency admissions receive prior approval, may also have played a part.

Table 3.3 shows the change in admissions and daily census (the average count of patients in the hospital over the course of the year) during 1980-86. Admission rates at rural hospitals declined much more than the national average. Daily census for rural hospitals declined somewhat less, because length of stay in rural hospitals was (counter to the national trend) rising somewhat. Still, rural hospitals lost 22 percent of their patient load during this period. The smallest hospitals saw their census decline by a third.

TABLE 3.3. Percent Change in Admissions and Daily Census, Registered Community Hospitals, 1980-86

	Admissions			
	1980-84	1984-85	1985-86	Total 1980-86
Total U.S. hospitals	-3%	-5%	-3%	-11%
Rural hospitals:				
6-24 beds	-25	-13	-7	-39
25-49	-9	-8	-5	-20
50-99	-18	-10	-6	-31
100-199	-13	-7	-10	-27
200 or more	-27	-10	-5	-38
Total rural	-18	-8	-7	-30

	Average Daily Census			
	1980-84	1984-85	1985-86	Total 1980-86
Total U.S. hospitals	-4.7%	-7.4%	-1.8%	-13.3%
Rural hospitals				
6-24 beds	-22.2	0.0	-14.3	-33.3
25-49	-15.8	-6.3	-6.7	-26.4
50-99	-10.9	-9.8	0.0	-19.6
100-199	-9.2	-6.7	-2.4	-17.3
200 or more	-8.8	-7.1	-1.6	-16.6
Total rural	-13.3	-7.7	-2.1	-21.7

Source: American Hospital Association. Profile of Small or Rural Hospitals 1980-86. Chicago. 1988.

Rural hospitals began this period with lower occupancy rates than urban ones, 68.6 percent in 1980 as opposed to 77.9 percent in urban hospitals. The gap has now widened. As of 1987, the overall rural occupancy rate was 55.3 percent, compared to 67.7 percent in urban hospitals. The difference would be even greater, except that rural hospitals were closing or reducing beds

during these years. Total beds in rural hospitals dropped 13.2 percent, while urban beds rose slightly. In addition, as noted above, there was a slight increase in length of stay.[30]

It is not clear that the drops in admissions and census at rural hospitals can be attributed, as the overall national drops often are, to a shift from inpatient to outpatient treatment. During the 1980-84 period, when admissions to rural dropped 18 percent, the total number of outpatient visits to rural hospitals (not counting emergency room visits) also dropped by 7 percent, from 25 million visits in 1980 to 23 million in 1984. In the same period, outpatient visits in urban hospitals increased by 16 percent. Rural outpatient utilization has since grown much more rapidly, reaching 30 million visits in 1987, or 29 percent above the 1980 level. Urban outpatient visits rose 37 percent in the 1980-87 period. Despite the recent increases in rural outpatient utilization, the fact that outpatient visits dropped during the period when inpatient use was dropping most sharply suggests that the hypothesis of a shift to ambulatory care may be questionable. Of course, it is not necessarily the case that shifting patients from inpatient to outpatient settings will produce an absolute increase in outpatient visits. It could be that the shift actually was occurring in rural hospitals at the same rate as in urban ones, but was offset by drops in other kinds of outpatient utilization. Or it could be that patients were being shifted out of the inpatient setting but were then treated away from the hospital, perhaps in physicians' offices.

Rural hospitals, like urban ones, modified their operations to deal with the changes in inpatient utilization. They cut staff: total full-time equivalent employees in rural hospitals dropped 12 percent between 1980 and 1987, during a time when urban hospital employment was actually growing by 14 percent. The urban staff growth was, however, justified by a less severe drop in inpatient utilization and a greater increase in outpatient utilization. Once these factors are accounted for, the rural staff reductions come to 9 percent, while urban facilities effectively reduced staff by 13 percent.[31] In both urban and rural facilities, labor costs as a percentage of total cost dropped.

Overall, rural hospitals' costs per inpatient day grew more slowly than those of urban hospitals. Rural costs per day rose 198 percent in the years 1980-87, while those in urban hospitals rose 221 percent. However, rural revenues apparently rose even more slowly. Again, the comparison is hampered by the lack of revenue data for rural as opposed to urban hospitals. If bed size can again be used as a proxy, small hospitals appear to have been

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[30]While longer lengths of stay can increase average occupancy, they may not always help finances. Medicare, for example, pays fixed rates per case, regardless of length of stay.

[31]These are reductions in employees per "adjusted inpatient day," an AHA measure that adjusts inpatient day counts to include equivalents in outpatient utilization.

less successful than large ones in raising revenues as costs grew. Cost per day in hospitals with 6-24 beds rose 217 percent in 1980-87, while revenue per day rose just 206 percent. The reverse was true in the largest hospitals, those with 500 beds or more, whose daily revenue went up 237 percent, while cost rose only 219 percent.

In summary, while other factors have played a part in hospital losses, insufficient patient volume and an inability to reduce costs sufficiently in the face of declining volume and stagnating revenues appear to be the most important factors. The next section of this chapter looks more closely at some of the possible explanations for declining occupancy rates in rural hospitals.

Explaining Volume Declines

Bed Supply

The simplest hypothesis to explain the underutilization of rural hospitals is excess capacity. There is a common perception that, despite the capacity reductions in recent years, rural areas still have more hospital beds than their population can support. This is often attributed to the impact of the Hospital Survey and Construction Act of 1946, the Hill-Burton Act. In the period 1947-71, the Hill-Burton program contributed Federal funds towards 5,787 short-term hospital projects, helping to provide 344,453 new hospital beds. The program was targeted at rural areas, especially those in low-income States. Of all the hospitals funded by Hill-Burton, 43 percent were in communities with populations below 10,000; 63 percent were in communities with populations below 25,000.[32] Overall, the program succeeded in narrowing the gap in hospital bed supply between urban and rural areas.[33] However, the program did not, at least on a national aggregate basis, produce a relative excess of beds in rural areas as compared to urban ones.

Nationally, the ratio of community hospital beds to population in 1986 was virtually the same in rural and urban areas, about four beds per thousand persons.[34] Table 3.4 shows rural and urban beds per thousand

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[32]Lave, Judith R., and Lester B. Lave. The Hospital Construction Act: An Evaluation of the Hill-Burton Program, 1948-1973. Washington, American Enterprise Institute, 1974.

[33]Clark, Lawrence J., et al. The Impact of Hill-Burton: An Analysis of Hospital Bed and Physician Distribution in the United States: 1950-1970. Medical Care, v. 23, n. 5, May 1980, p. 532-550.

[34]The Nation has achieved the ratio of 4 beds per thousand persons proposed by the national health planning guidelines in 1978 without achieving the 80 percent occupancy goal contemplated by the same guidelines.

population, along with 1986 occupancy rates, for each State and for the Nation. As the table indicates, there is considerable variation at the individual State level. Beds per thousand in rural areas range from 1.7 in Alaska to 6.9 in North Dakota. In urban areas, the range is from 2.2 beds per thousand in Hawaii to a high of 7.7 beds per thousand, once again in North Dakota. Overall, there are only 14 States where the rural bed-to-population ratio is higher than the ratio for urban areas.[35]

[35]They are Colorado, Georgia, Hawaii, Idaho, Kansas, Maryland, Minnesota, Mississippi, New Hampshire, Oregon, Virginia, Washington, Wisconsin, and Wyoming.

TABLE 3.4. Community Hospital Beds per 1,000 Population in Rural and Urban Areas and Hospital Occupancy Rates, 1986

	Rural			Urban		
	Number of beds	Beds per 1,000 population	Occupancy rate (%)	Number of beds	Beds per 1,000 population	Occupancy rate (%)
Alabama	6,468	4.4	53.9	13,645	5.3	65.0
Alaska	503	1.7	55.3	657	2.8	59.2
Arizona	1,891	2.4	52.9	8,225	3.3	64.8
Arkansas	5,936	4.1	49.2	4,955	5.3	67.2
California	3,083	2.7	48.8	79,295	3.1	62.8
Colorado	2,674	4.4	54.0	8,496	3.2	60.9
Connecticut	653	2.8	56.0	9,388	3.2	73.6
Delaware	602	2.8	68.6	1,593	3.8	67.4
Dist. of Columbia	0[a]	0.0	0.0	4,693	7.5	77.5
Florida	3,787	3.6	52.6	46,819	4.4	63.0
Georgia	9,490	4.3	61.2	16,230	4.1	65.7
Hawaii	783	3.2	65.6	1,803	2.2	78.3
Idaho	2,877	3.6	52.9	560	2.9	66.6
Illinois	8,803	4.3	54.2	43,531	4.6	65.7
Indiana	5,674	3.2	48.7	17,332	4.6	61.1
Iowa	7,228	4.4	53.0	7,590	6.2	62.9
Kansas	7,130	6.0	47.4	5,140	4.0	63.2
Kentucky	7,506	3.7	61.1	8,830	5.2	64.9
Louisiana	4,891	3.5	45.8	15,126	4.9	61.4
Maine	2,700	3.6	61.6	2,188	5.2	72.8
Maryland	1,088	3.4	72.5	13,308	3.2	73.0
Massachusetts	1,993	3.7	64.6	22,843	4.3	69.0
Michigan	6,558	3.6	54.2	29,851	4.1	66.5
Minnesota	8,758	6.1	60.9	12,534	4.5	64.5
Mississippi	9,420	5.1	54.4	3,678	4.7	66.6
Missouri	6,149	3.6	50.5	19,175	5.7	66.6
Montana	3,507	5.7	57.1	1,172	5.9	61.6
Nebraska	4,769	5.6	50.8	4,678	6.2	61.3
Nevada	476	2.8	43.9	2,888	3.6	48.9
New Hampshire	1,797	4.0	63.0	1,530	2.6	65.6
New Jersey	0[a]	0.0	0.0	29,343	3.9	74.8
New Mexico	1,942	2.5	58.2	2,186	3.1	61.4
New York	7,289	4.3	74.6	70,005	4.4	82.1
North Carolina	9,406	3.3	58.8	13,025	3.7	69.4
North Dakota	2,955	6.9	58.8	1,943	7.7	63.0
Ohio	7,799	3.4	49.7	39,910	4.7	66.2
Oklahoma	5,170	3.8	45.5	7,976	4.1	63.4
Oregon	2,792	3.2	46.6	5,590	3.1	59.1
Pennsylvania	7,255	4.0	65.6	47,454	4.7	70.6

a/ The District of Columbia and New Jersey have no areas outside Metropolitan Statistical Areas.

TABLE 3.4. Community Hospital Beds per 1,000 Population in Rural and Urban Areas and Hospital Occupancy Rates, 1986 -- Continued

	Rural			Urban		
	Number of beds	Beds per 1,000 population	Occupancy rate (%)	Number of beds	Beds per 1,000 population	Occupancy rate (%)
Rhode Island	217	3.0	62.7	3,223	3.6	75.5
South Carolina	4,166	3.1	65.8	7,264	3.6	71.0
South Dakota	3,255	6.4	53.9	1,313	6.6	63.2
Tennessee	6,728	4.2	54.5	18,358	5.7	66.3
Texas	11,703	3.6	39.9	51,727	3.8	58.7
Utah	926	2.4	42.0	3,480	2.7	62.3
Vermont	1,532	3.7	63.4	591	4.7	80.7
Virginia	6,047	3.7	61.5	14,567	3.5	69.7
Washington	2,730	3.2	43.8	10,254	2.8	61.2
West Virginia	5,182	4.3	57.4	4,466	6.4	62.7
Wisconsin	7,460	4.7	60.9	13,964	4.4	60.3
Wyoming	1,674	4.6	51.0	561	3.8	48.7
Total U.S.	223,424	4.0	55.1	754,958	4.1	67.0

Sources: Hospital beds and occupancy rates as reported in American Hospital Association. Hospital Statistics. 1987 Edition. Chicago. 1987. Table 6. Beds per 1,000 population estimated by Congressional Research Service, using census estimates as reported in Statistical Abstract of the United States: 1988, Table 33.

Although overall rural occupancy levels are lower than in urban areas, this too varies at the State level. Overall, rural hospitals' occupancy rates are about 82 percent of those in urban areas. In Wyoming, Delaware, and Wisconsin, rural hospitals actually have higher occupancy rates than urban ones. In Texas and Utah, their occupancy is much lower, about two-thirds of the urban level. However, there is no clear connection between occupancy and the ratio of beds to the population. The area with the lowest occupancy rate (and the highest rate of hospital closures), rural Texas, had a smaller bed supply in 1986 than the national rural average. The rural area with the highest bed supply, North Dakota, had above average occupancy. At least at the State level, there is no correlation between relative urban and rural bed supplies and relative occupancy rates.

Use of State level data can, of course, mask variation at the level of particular MSAs or counties within each State. Some localities may have an oversupply of beds, while others are underserved. At a minimum, however, it may be said that there is no simple relationship between bed supply and occupancy. The prevailing lower occupancy rates in rural hospitals must be attributable either to lower inpatient utilization or to migration of patients from rural to urban hospitals. The next sections of this chapter examine the rural environment to see if there are factors constraining inpatient utilization, such as general economic distress or low rates of insurance coverage. This discussion is followed by a review of the limited evidence on the extent to which rural residents travel elsewhere for care.

The Rural Environment

Trends in the 1980s. After a period of rapid economic and population growth in the 1970s, rural areas have suffered a general decline in the 1980s. Agricultural regions, already suffering from the downturn in farming early in the 1980s, were further affected by the 1988 drought. Falling energy prices have brought widespread unemployment to areas dependent on the petroleum and mining industries. Joblessness is also high in the manufacturing and service sectors. Overall rural unemployment, historically lower than in urban areas, began to exceed the urban rate at the start of the decade and grew much faster. Rural unemployment continued to grow even as the rest of the Nation recovered from the recession at the start of the decade. While urban unemployment dropped from 7.3 percent in 1984 to 6.9 percent in 1985, rural unemployment rose from 12.2 percent to 13.0 percent.[36]

Rural areas have long had higher rates of poverty than urban ones. Although poverty has grown more slowly in rural areas than in the cities during the 1980s, rural areas began with a higher base. As of 1986, 18.4

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[36]U.S. Department of Agriculture. Economic Research Service. Rural Economic Development in the 1980s: Preparing for the Future. ERS Staff Report No. AGES870724. Washington, 1987.

percent of persons under age 65 in rural areas had family incomes below 100 percent of the Federal poverty level, compared to 12.6 percent in urban areas. In addition, 23.0 percent of rural residents under age 65 are "near poor," with incomes between 100 and 200 percent of the poverty level. In urban areas, 16.2 percent of the under 65 population falls into this category.[37]

In addition to its economic problems, rural America also has a declining rate of population growth. In the 1970s, the rural population was growing faster than that in urban areas, largely because of net migration from the cities. In the 1980s, this trend was reversed, as economic dislocation resulted in migration from rural to urban areas. In the Northeast and Midwest regions, the rural population remained virtually flat from 1980 to 1986. Population growth continued in the South and West, but at slower rates than in the 1970s. Overall, rural population has increased in this period at about half the rate of growth in urban areas, 0.6 percent a year as compared to 1.1 percent.[38]

Impacts on hospitals. The changes in the rural environment during the 1980s may have affected hospitals in at least three different ways.

First, the population served by some hospitals has remained stable or declined during a period when changes in medical practice were reducing the incidence of hospital admission (these practice trends will be discussed further below). While the medical practice changes were reducing admissions in both urban and rural areas, it is theorized that urban hospitals could partly offset these changes because the population they served was continuing to grow.

Nationally, however, the gap between urban and rural hospital admission rates was growing faster than the difference in urban and rural population. This can be seen by looking at per capita admission rates. On a per capita basis, urban hospitals had 6 percent more admissions than rural ones in 1980, 162 per 1,000 persons as compared to 153 for rural hospitals. By 1986, urban hospitals had 25 percent more admissions per capita, 141 per 1,000 persons versus 113 per 1,000 in rural hospitals.[39] The distance was widening, not just in absolute numbers, but even after population changes are taken into account. This does not mean that population changes may not have had an impact in particular regions or localities. Possibly hospitals in areas with a net population decline resulting from migration have actually had greater drops in occupancy than others.

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[37]Rowland, Diane, and Barbara Lyons. Triple Jeopardy: Rural, Poor, and Uninsured. Health Services Research, v. 23, n. 6, Feb. 1989, p. 975-1004.

[38]U.S. Department of Commerce. Bureau of the Census. Statistical Abstract of the United States: 1988. Washington, 1988. Table 33.

[39]Estimates derived from data reported in American Hospital Association. Profile of Small or Rural Hospitals: 1980-86. Chicago, 1988.

Second, there may have been changes, not in the total population served, but in the paying population served. Increases in unemployment and poverty may have been accompanied in some areas by increases in the percentage of the population lacking health insurance coverage. The extent and sources of health insurance coverage in rural areas will be discussed in the next section.

The third potential impact of general economic distress in rural areas is that tax base may have declined in some rural areas. A drop in the value of farmland, for example, may mean serious constraints on local governments, whose spending is often financed chiefly through property taxes. As was discussed earlier, the smallest hospitals appear to be particularly dependent on government subsidies. If there are strains in some local government budgets, these could be especially damaging to very small facilities.

Health Insurance Coverage

Table 3.5 shows, by census division, the sources of health insurance coverage for persons in rural areas in 1986.[40] It also compares national coverage rates in rural areas to those in urban areas.

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[40]The data are derived from the March 1987 Current Population Survey, in which respondents were asked if they received coverage from a particular source at any time in 1986. Some analysts believe that responses to this survey may reflect recent coverage status, or even coverage on the date of the survey, rather than the respondent's status throughout 1986. This problem could affect the accuracy of the overall coverage rates reported, but would not be expected to distort the comparison of urban and rural coverage rates.

TABLE 3.5. Rural Population by Source of Health Insurance Coverage, 1986

	Employer group	Medicare	Medicaid	Other[a]	Uninsured
Census division:					
New England	62.3%	12.5%	4.4%	8.9%	11.8%
Middle Atlantic	63.2	13.5	5.6	7.5	10.2
East North Central	60.7	12.8	6.1	8.5	11.9
West North Central	53.3	13.8	5.4	15.1	12.4
South Atlantic	55.8	13.6	5.3	9.9	15.4
East South Central	49.6	13.3	6.7	9.6	20.8
West South Central	45.4	12.8	6.3	10.4	25.3
Mountain	51.0	10.8	5.0	14.1	19.1
Pacific	49.0	12.0	10.3	14.3	14.4
Total Rural	54.9%	13.0%	5.9%	10.6%	15.7%
Total Urban	60.0%	10.7%	6.2%	7.5%	15.5%

a/ Other includes individually purchased private coverage, CHAMPUS, and other sources of health insurance.

NOTE: Some persons report more than one source of health insurance coverage. For example, a Medicare beneficiary may also be covered by Medicaid or may purchase a private Medicare supplemental policy. In this table, persons with multiple coverage are reported in the first applicable category, reading from left to right. This hierarchy generally corresponds to rules determining primary and secondary coverage.

Source: Congressional Research Service analysis of data from the March 1987 Current Population Survey.

The following generalizations are based on the national figures. The very different coverage patterns in particular regions will be discussed further below.

- A smaller proportion of rural residents receive coverage through employer group plans, either directly or as dependents. This difference is largely offset by the higher proportion of rural residents receiving "other" health coverage, chiefly private health insurance plans purchased on an individual basis or through associations. This coverage may be somewhat less comprehensive than that offered through employer group plans; it is more likely, for example, to

exclude coverage for conditions already diagnosed at the time the insurance was purchased. This could mean that rural hospitals may furnish more uncompensated care to persons who are nominally insured.

- A slightly higher proportion of rural residents are enrolled in Medicare, 13.0 percent as compared to 10.7 percent in urban areas. This difference roughly conforms to the urban/rural difference in population aged 65 and over. However, census data indicate that less urbanized rural areas have somewhat higher proportions of senior citizens. Although a further breakdown of the Medicare population is not available, less urbanized areas would also be expected to have higher concentrations of Medicare beneficiaries.

- The proportions of urban and rural residents receiving Medicaid benefits are nearly the same, even though rural areas have higher rates of persons living in poverty. Some writers have speculated that this may be due to Medicaid's categorical restrictions, which tend to favor single-parent families over two-parent families. More of the rural poor are in intact families.[41] Medicaid limitations on family assets may also discriminate against rural residents. Finally, it is possible that fewer poor rural residents apply for Medicaid, because of the program's welfare stigma.

- The share of the population with no health insurance in 1986 was virtually identical in urban and rural areas in 1986. Other studies that have reported higher rates of uninsurance in rural areas have focused on the population under age 65. It is true that, if Medicare beneficiaries are omitted, the share of the remaining population without insurance is higher in rural areas. This observation is important in addressing such concerns as access to prenatal and early childhood care. However, if the subject is the overall pool of paying patients available to urban and rural hospitals, it may be appropriate to base the comparison on the total population.

Overall, on a national basis, the differences in urban and rural coverage rates are not large, although the sources of coverage tend to be different. However, the national data mask important differences in certain regions. In particular, the West South Central displays a higher rate of persons without health insurance than any other region. As this is also the region with the highest rate of hospital failure, it is possible that the larger uninsured population has been a factor. However, the South Atlantic and Mountain regions also have large uninsured populations, but fewer hospital failures.

The insurance coverage of rural residents may have changed since 1986, nationally or in particular regions. For example, the West North Central

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[41]Rowland and Lyons. Triple Jeopardy.

region relies very heavily on individually purchased health insurance. Farmers in financial difficulty may have dropped coverage, and the recent losses of commercial and Blue Cross plans may have led some of them to tighten restrictions on the sale of individual coverage or raise rates to the point at which many individual purchasers can no longer afford insurance. The number of Medicaid beneficiaries has been growing nationally in the last several years, after many years during which the population was steady, largely as a result of recent congressionally mandated expansions of eligibility, especially for pregnant women and children. The effects of such changes on the regional distribution of the uninsured is not yet known.

Besides overall rates of insurance coverage, the most important coverage issue for rural hospitals is their very high dependence on Medicare reimbursement. Although there is only a 2 percentage point difference in the Medicare share of the populations served by urban and rural hospitals, Medicare often accounts for a much larger share of total revenues at rural hospitals. Table 3.6 shows the distribution of hospitals by the extent of Medicare's contribution to their patient revenues. Nationally, 53 percent of hospitals derived 42 percent or less of their patient revenues from Medicare. Rural hospitals with 25 to 100 beds were likely to rely more heavily on Medicare. Of those with 25-49 beds, 77 percent received 43 or more percent of their revenues from Medicare; 16 percent received more than 53 percent of their revenues from Medicare.[42] Hospitals with 50-99 beds show a similar pattern. However, the smallest hospitals--those with fewer than 25 beds--displayed much less dependence on Medicare.

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[42]American Hospital Association. Profile of Small or Rural Hospitals. The intervals are AHA's, and do not indicate distribution below the 42 percent cutoff. Overall, Medicare accounted for an estimated 28.8 percent of hospital revenues in 1986. U.S. Congress. House. Committee on Ways and Means. Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means, 1989 Edition. WMCP 101-4. p. 261.

TABLE 3.6. Distribution of Hospitals by Medicare Percentage of Net Patient Revenue, 1986

	Medicare 0-42% of total revenue	Medicare 43-52% of total revenue	Medicare 53+% of total revenue
Total U.S.	53%	38%	9%
Rural hospitals:			
6-24	75%	12%	13%
25-49	23	61	16
50-99	26	64	10
100-199	74	21	6
200 or more	67	31	3
Total rural	41%	48%	11%

Source: American Hospital Association. Profile of Small or Rural Hospitals 1980-86. Chicago. 1988. Table 8.

How does it happen that, despite the relatively small difference in the urban and rural Medicaid population so many rural hospitals are much more dependent on Medicare payment? Perhaps the most plausible explanation, though not the only one, is that the relatively less mobile Medicare population is more likely to receive care at the local hospital, while other patients travel to receive care elsewhere. This explanation might also account for the fact that the very smallest hospitals are less Medicare-dependent than those with 25-100 beds. The smallest hospitals are more likely to be sole community providers, relatively isolated from other hospitals; travel even by younger patients to other facilities might be lower.[43] This issue will be considered further in the next section.

It is also possible that the high Medicare shares reflect a higher proportion of "social admissions," those which are not medically necessary in strict terms but which are required for non-medical reasons. Some patients may be hospitalized because of lack of nursing home space, some because

[43]For distribution of hospitals by size and relative isolation, see SysteMetrics/McGraw-Hill. Small Isolated Rural Hospitals: Alternative Criteria for Identification in Comparison with Current Sole Community Hospitals. Report to Prospective Payment Assessment Commission. Technical Report No. E-87-11. Washington, 1988. Exhibit V-16. Systemetrics also found that Medicare accounted for a slightly lower percentage of discharges at sole community hospitals than at other rural hospitals. Exhibit V-15.

home health care or caretaker services are unavailable; others might be admitted after an outpatient surgical procedure because they are too frail to travel home. Medicare's Peer Review Organizations (PROs), contractors that review the appropriateness of hospital care, are reported to have recommended denial of payment for many social admissions in rural hospitals, on the grounds that the admissions were not medically necessary. (OBRA 86 directed the Secretary to relax the medical necessity requirements for these cases in rural hospitals, but no action has been taken.) Even if many such admissions were being denied in 1986, they may still have occurred at a higher rate in rural hospitals than in urban ones.

Finally, there may be instances in which Medicare accounts for a disproportionate of a hospital's revenues because Medicare payments are greater than the hospital's usual charges to other payers. Because Medicare pays the same rates to entire classes of hospitals, some hospitals may receive substantial surpluses, while others suffer losses. As will be seen in the next chapter, more rural hospitals appear to be losing money on Medicare. There are exceptions, however, and it cannot be assumed that all hospitals with high rates of reliance on Medicare are among the losers.

Migration from Rural Hospitals

The claim that rural residents may be leaving their hospitals for other faciulities voluntarily, on their own or on the advice of their physicians, is a controversial one. Researchers are now attempting to measure the extent to which rural residents bypass their community hospitals and seek care from more distant facilities. The evidence available so far is limited and ambiguous. Nevertheless, the issue must be examined, as it is a central one in thinking about policy for rural hospitals.

Hospital utilization data are usually compiled on the basis of hospital location, rather than on the basis of patient residence. There are, however, three potential sources of information on where rural residents go to obtain inpatient hospital services. Some national surveys have developed profiles of the use of services by individuals and families. Another national source is Medicare payment records; these, of course, can only reflect the travel patterns of Medicare beneficiaries. Finally, some States collect uniform reports on all hospital discharges in the State. These can be grouped by patient residence, although there is no information on services that residents of the State obtain by crossing State lines.

To begin with the national survey data: one study, the National Medical Care and Expenditures Survey (NMCES), provides information on urban and rural residents' hospital charges. The data are old (the survey was conducted in 1977), but still informative. In that year, the average urban resident incurred inpatient hospital charges of $224. Charges for the average rural

resident were $207, just 8 percent lower.[44] To reach this expenditure level, rural residents would have had to receive $13.4 billion in inpatient services. Total expenses in all rural hospitals in 1977 were $8.7 billion; as this figure includes outpatient expenses, total inpatient costs must have been even lower.[45] This implies that rural residents obtained at least a third of their inpatient care, and probably more, from urban hospitals in that year. The NMCES data, like those of any survey, are subject to sampling error. Nevertheless, the figures suggest that substantial migration for services was already occurring even before the sharp drops in rural hospital inpatient utilization of the 1980s.

One study has used Medicare payment data to define hospital markets and patient travel patterns. A 1988 report for the Prospective Payment Assessment Commission (ProPAC)[46] by SysteMetrics/McGraw-Hill reviewed the extent to which Medicare beneficiaries in the immediate area of rural hospitals relied on those hospitals as their chief source of inpatient care.[47] The study used several different definitions of hospital service areas. The narrowest included only the ZIP codes closest to the hospitals and from which the hospitals drew most of their patients. The wider service area definitions included more distant ZIP codes.

Even using the narrowest definition of service area, 36 percent of rural hospitals provided less than half the inpatient discharges for Medicare beneficiaries in their area. Only 410 hospitals, 1 in 6, provided as much as 70 percent of the care used by beneficiaries in their area. When the service areas were broadened to include localities more distant from the hospital, the market shares declined even further. Using the broadest definition, fewer than half of rural hospitals provide as much as 50 percent of the care received by area Medicare beneficiaries.

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[44]Kasper, Judith A., Louis F. Rossiter, and Renate Wilson. A Summary of Expenditures and Sources of Payment for Personal Health Services from the National Medical Care Expenditure Survey. U.S. Department of Health and Human Services. Public Health Service. National Center for Health Services Research and Health Care Technology Assessment. Rockville, May 1987, DHHS Publication No. (PHS) 87-3411.

[45]American Hospital Association. Hospital Statistics. 1978 Edition. Chicago, 1978.

[46]The Prospective Payment Assessment Commission is an independent body established by the Social Security Amendments of 1983 (P.L. 98-21) to monitor and report on Medicare's PPS for inpatient hospitals, established by the same Act.

[47]Systemetrics/McGraw-Hill. Small Isolated Rural Hospitals.

Even the most isolated facilities, those 50 miles or more from the nearest hospital and those cut off for part or all of the year by such factors as snowfall or a water barrier, still had relatively small market shares. Only one in four of these isolated hospitals provided as much as 65 percent of the inpatient care received by Medicare beneficiaries living in their service area. Again, this study considered only the travel patterns of Medicare beneficiaries, those thought to be least mobile. Other patients might have been even less likely to rely on local facilities.

Finally, researchers are beginning to use data sets compiled by States, which can reveal patterns of use for the entire population in that State.[48] Hogan used New York State's discharge data set to review travel for inpatient care by rural residents in 1983. His findings are shown in table 3.7. Of all inpatient discharges of rural residents, 19.3 percent were from urban hospitals; urban hospitals accounted for 22.3 percent of total days of inpatient care for rural residents. As expected, the oldest residents were least likely to travel. Only 10.3 percent travelled to an urban hospital, while 81.7 sought care in their home county.

TABLE 3.7. Sources of Inpatient Care for Rural Residents, New York State, 1983

	Urban hospitals	Rural hospitals, out of county	Rural hospitals, in county
All rural patients:			
Percent of discharges	19.3%	9.7%	70.9%
Percent of days	22.3	9.1	68.7
Rural patients over age 75:			
Percent of discharges	10.2%	8.0%	81.7%

Source: Hogan, Christopher. Patterns of Travel for Rural Individuals Hospitalized in New York State: Relationships Between Distance, Destination, and Case Mix. Journal of Rural Health 4:2 (July 1988), p. 29-41.

[48]Unfortunately, most of the States that have collected such data are highly urbanized and may not be representative of States with larger rural populations. Exceptions include Iowa and West Virginia.

These figures are much lower than those implied by the NMCES survey for 1977. However, the extent to which the New York data can be generalized to other States is uncertain. On the one hand, many rural counties in New York are close to urban areas. Of patients traveling to an urban county, 71 percent came from an adjacent rural county; only 29 percent crossed more than one county line. Less travel to urban areas might be expected in States with more isolated rural counties. On the other hand, rural hospitals in New York had an unusually high occupancy rate, 83.6 percent in 1983 compared to a national average for rural hospitals in that year of 66.1 percent.[49] This may be because there was less migration to urban areas in New York than in other States. Even the 22 percent rate of migration to urban hospitals found in New York, if repeated nationally, would account for much of the urban/rural occupancy difference.

The Codman Research Group has also begun using State data sets to examine hospital markets and travel patterns. So far, the investigation has produced preliminary profiles of the behavior of residents of individual hospitals' market areas, rather than broad studies of rural travel patterns. Larger studies are under way. Obviously none of the individual market profiles can be taken as representative of rural behavior generally. However, a review of one of them, "County Hospital" in Iowa, may at least suggest patterns which could account for some of what has happened to small rural hospitals.[50]

County Hospital is about an hour's drive from Des Moines and three hours from the University of Iowa at Iowa City. It has 54 beds and offers a full range of services, including emergency, obstetric, and outpatient departments. Its occupancy dropped from 50 percent in 1985 to 37 percent in 1987. In 1985, it provided 71 percent of the inpatient admissions received by residents of its market area, while 21 percent of the residents travelled to Des Moines for care and another 4 percent to Iowa City. By 1987, its share of admissions had dropped to 61 percent. Now 27 percent of the residents were travelling to Des Moines and 5 percent to Iowa City. (Most of the remaining patients in both years travelled to hospitals in adjacent rural counties.)

The hospital's loss of market share was accounted for largely by changes in where patients went for surgery. County Hospital's share of residents' inpatient surgical admissions dropped from 52.0 percent in 1985 to 34.7 percent in 1987. During the same period the number of births in the hospital dropped by one-third. Its loss of medical (neither surgical nor obstetrical) patients was less precipitous. The hospital held or even increased its share

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[49]American Hospital Association. Hospital Statistics. 1984 Edition. Chicago, 1984.

[50]This profile is drawn from a personal communication by Manon Spitzer, Codman Research Group, Inc., Lyme, N.H. Apr. 13, 1989.

of admissions for some diagnoses associated with the frail elderly, such as pneumonia and transient ischemic attacks (its share of stroke cases dropped somewhat).

Overall, County Hospital's inpatient revenues dropped about 3 percent during this period; its revenues from surgery dropped 41 percent. Essentially, it was able to make up much of the revenue loss from surgery by increasing its charges for medical admissions. It was also able to hold its overall cost increase over the 2 years to 5.6 percent. However, possibly because the patients it was now treating required more intensive nursing care, its staff actually grew, from 92 to 95.

The picture is one of steady loss of patients requiring highly technical services, as well as of obstetrical admissions, leaving the hospital increasingly dependent on the elderly and hence on Medicare. Even in 1985, a quarter of the patients in its area were travelling 1 to 3 hours to seek care in major medical centers; by 1987 a third of the patients were doing so.

Again, this single profile is not evidence of general rural trends, but is merely an illustration of what may be happening to some hospitals. From the other studies, however, it is clear that many rural residents are traveling to distant hospitals for care and that this may be a factor in low rural occupancy levels. Firmer conclusions on the importance of this factor may be possible when current, broader-scale patient origin studies are completed.

If migration from small rural hospitals is occurring, why are patients leaving? Sometimes, of course, people may have no choice but to travel. If a patient requires open heart surgery, and the local facility is not equipped to perform it, the patient must go elsewhere. It is possible that the difference in the range of services available from urban and rural hospitals is growing, as new technologies are introduced that many rural hospitals cannot afford to purchase (the problem of access to capital is discussed below).

However, it may be that referral patterns are changing for reasons unrelated to any real change in the relative capacities of urban and rural hospitals. Concern about malpractice liability could make physicians less willing to treat potentially high-risk patients in rural facilities; they may instead prefer to send the patients to urban centers. There have also been changes in the types of physicians practicing in rural areas. The 1970s saw a diffusion of specialists into rural areas, matched by a decline in the numbers of family and general practitioners.[51] These new physicians may be more likely to recommend services that cannot be provided in the local hospital.

Changes in physician preferences may have been accompanied by a growth in patients' own awareness, fostered by television and other mass media, of

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[51]Newhouse, Joseph P. et al. Where Have All the Doctors Gone. Journal of the American Medical Association, v. 247, n. 17, May 7, 1982, p. 2392-6.

the progress of medical technology. They may desire on their own specific services that cannot be obtained locally, or they may simply see a strong contrast between the elaborate, modern facilities shown on television and their local hospital. In addition, the 1970s saw net migration from urban areas to rural ones at the rate of 350,000 persons per year.[52] Some of the newcomers to rural areas might prefer urban hospitals. However, utilization shifts of the magnitude seen at County Hospital would have to reflect changing preferences of long-time residents as well as new ones.[53]

If some people choose, or their physicians choose for them, services in more distant facilities, this may have a number of effects that go beyond the mere absolute loss in volume. First, as has been suggested, the poor and elderly may be much less mobile. While other members of the community may choose to travel farther for care, they may not have this option. As a result, hospitals may become increasingly dependent on Medicare and Medicaid and more vulnerable to any revenue shortfalls from these sources.

A second consequence may be that the hospitals loses customers for the routine, bread and butter services that support its operations, leaving nothing to subsidize the urgent care services needed locally. If buyers begin traveling to a supermarket 50 miles away for most things and turning to a local merchant only for an emergency bottle of milk, the local merchant eventually closes. The problem may be compounded by the characteristics of patients who are continuing to use the local hospital. Not only are small hospitals left more dependent on Medicare and Medicaid, but they may also find that many of their other patients are uninsured. There is some evidence that certain services are more likely than others to attract uninsured patients and result in financial losses for hospitals. This appears to be especially true of obstetrical and emergency care.[54] If it is the case that, in some communities, patients seek elective care from more distant facilities and use the local hospital only for urgent services, then the local hospital may have been left with the least profitable lines of business. Not only might this trend have contributed to some hospital closures, but it also complicates the problem of preserving access to care. The very services that are most critical, that may form the basic rationale for keeping small rural hospitals open, may also be

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[52]U.S. Department of Agriculture. Rural Economic Development.

[53]One rural health expert interviewed for this report spoke of the "K-Mart syndrome," a general tendency for rural residents to travel farther than they once did for many of the goods and services they require, to centralized outlets that may provide greater variety or perceived quality.

[54]There are at least two possible explanations: that a higher proportion of persons requiring these services are uninsured, or that uninsured persons obtain these services but are not admitted for elective care. For a review of the evidence, see Institute of Medicine. For-Profit Enterprise in Health Care. Bradford H. Gray, ed. Washington, 1986. p. 107-108

those that require the greatest subsidy. This issue will be raised again in the final section of this report.

Finally, a pattern of out-migration may eventually mean erosion of the community financial support that can make the difference between closure and survival for facilities unable to break even on patient revenues alone. If younger people begin to use the local hospital only in emergencies, they may cease to perceive it as an integral part of community life. They may be less willing to accept higher tax bills or make voluntary contributions to support growing hospital deficits.

Other Major Rural Hospital Issues

The financial problems of rural hospitals may be compounded by the payment policies of particular insurers. Some hospitals may also have difficulty obtaining the necessary funds to modernize their facilities. Finally, financial pressures may make it increasingly difficult for some hospitals to maintain quality and meet licensure and certification standards. Even hospitals with adequate funds may have difficulty recruiting essential staff, such as nurses, or sustaining affiliations with attending physicians. The remainder of this chapter discusses these additional rural hospital problems.

Third-Party Payment Policies

The single problem most often cited by rural hospitals is insufficient revenue from third-party payers, including Medicare, Medicaid, and private insurers. The complex issues of the effect of Medicare payment policies on rural hospitals are dealt with separately in the next chapter. This section briefly reviews the problems with other sources of insurance payment, including Medicaid and private insurers.

Until the late 1970s, hospitals could generally be confident that, when they treated an insured patient, the insurer would pay at least the costs that the hospital incurred in treating that patient. Medicare and Medicaid paid on the basis of reasonable costs, while private insurers generally paid the hospital's full customary charges or, in the case of Blue Cross plans, a negotiated rate. By the end of the decade, however, both public and private insurers grew increasingly concerned about the explosive growth in hospital utilization and costs. They began to adopt strategies to limit the prices they would pay for services and to ensure that the services they purchased were medically necessary.

Payment rules. State Medicaid programs were required by Federal law to pay hospitals on a reasonable cost basis until 1980, when the requirement was repealed. States were then free to develop their own pricing systems for hospital services, within certain limits. Further flexibility was granted by the Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35), which allowed States

to negotiate contracts with selected hospitals and require beneficiaries to use those hospitals for all except emergency services. While only two States, California and Illinois, have taken advantage of the selective contracting option, many more have abandoned reasonable cost reimbursement in favor of some form of prospective payment, under which the prices Medicaid will pay for hospital services are fixed in advance. As of late 1987, only seven States and the District of Columbia continued to use a retrospective cost-based system for most inpatient care. Of the rest, 14 had adopted a system comparable to Medicare's prospective payment system, under which reimbursement varies according to the classification of each case into a diagnosis related group, or DRG. Most of the other States are paying a flat rate for each day of care or for total care of each case.[55]

Many hospitals report that Medicaid reimbursement under their State's policies is inadequate to meet the costs of treating Medicaid patients. However, these claims have never been systematically studied. It is true that average Medicaid payment for a day of care tends to be lower than hospitals' average daily costs. However, Medicaid beneficiaries may be using hospitals that cost more or less than the average. In addition, there is some evidence that the conditions for which they are treated are less costly than those of other types of patients. In summary, to evaluate hospitals' claims of Medicaid losses would require more information than is presently available about what kinds of conditions Medicaid patients are treated for, what services they use, and where they get those services.[56]

Some private insurers have also adopted price restraints, chiefly in the form of negotiated discounts with selected hospitals. The extent to which these practices have affected rural hospitals is uncertain. Negotiated discounts and selective contracting are characteristic of health maintenance organizations (HMOs) and preferred provider organizations (PPOs). Unlike traditional insurance plans, which will pay for covered services furnished by any qualified provider, HMOs require their enrollees to use their own facilities or those of designated contractors. Enrollees who use non-approved providers without prior authorization will receive no reimbursement. PPOs also develop a limited network of approved providers. Although they will usually pay for services obtained outside the network, PPOs give their enrollees a financial incentive, such as reduced deductibles or coinsurance payments, to use the contracting providers. Both HMOs and PPOs attempt to negotiate discounts from providers in return for a guarantee of volume. In areas where these organizations control a large share of the private insurance market, hospitals may compete to offer lower prices, in order to prevent patients from being

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[55]U.S. Library of Congress. Congressional Research Service. Medicaid Source Book: Background Data and Analysis. Report prepared for House Committee on Energy and Commerce. Committee Print 100-AA. Washington, 1988. p. 125-6.

[56]Ibid., p. 462-5.

directed to other hospitals. However, HMOs and PPOs have tended to operate in urban areas. In 1985, 10.6 percent of the population in urban areas was enrolled in an HMO, but only 3.0 percent of the rural population.[57] (Comparable enrollment figures for PPOs are not available.) Rural hospitals on the fringes of urban areas may be affected by price competition. On the other hand, they may be better equipped to compete than the higher-cost hospitals in the urban core.

Conventional insurers, including Blue Cross plans and some commercial insurers, may also negotiate rates with hospitals. Unlike HMOs or PPOs, they do not select a small number of hospitals from which their enrollees may receive care, so that hospitals are less likely to compete with one another in offering discounted prices. However, in areas where Blue Cross or another has a very large share of the market, it may have considerable negotiating power. In addition, some States have mandated that hospitals grant discounts to Blue Cross or similar plans. These discounts, too, could affect some rural hospitals.

Utilization controls. In addition to restraining prices, Medicare, Medicaid, and many private insurers have made efforts to ensure that the services they purchase are medically necessary and provided in an appropriate setting. Among the measures in use are systems for advance authorization of non-emergency hospital admissions, requirements that a second opinion be obtained before a patient receives elective surgery, and programs to promote the early discharge of patients with very long stays. The extent to which any of these measures, sometimes spoken of collectively as "managed care," have actually achieved savings is still a matter of dispute. Some of these measures, in particular close scrutiny of the medical necessity of inpatient admissions, may have a greater impact on rural hospitals than on health care providers in general. The case of Medicare denial of payment for "social admissions," those required for non-medical reasons, was discussed above. Comparable Medicaid restrictions might have a similar impact, because low-income persons may also be more likely than others to require social admissions.

Medicaid programs and some other insurers may also restrict coverage of "administrative days," days at the end of a stay when a patient no longer requires hospital care but is awaiting placement in a nursing home or other facility. Rural hospitals may be especially affected by these limitations, because they may have a higher proportion of frail elderly patients awaiting nursing home placement.

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[57]Tabulations by National Center for Health Statistics, based on the 1985 National Ambulatory Medical Care Survey. Cited, Norton, Catherine H. and Margaret A. McManus. Background Tables on Demographic Characteristics, Health Status, and Health Services Utilization. Health Services Research, v. 23, n. 6, Feb. 1989, p. 725-56.

Finally, some State Medicaid programs have set fixed limits on the number of days of hospital care a beneficiary may receive during a single stay or over the course of a year. Days in excess of these limits are not reimbursed, and the hospital is unlikely to recover the costs from low-income Medicaid patients. Some private insurance policies have similar limits, especially those sold to individual purchasers. These limits may have a greater impact in rural areas, where more persons rely on individually purchased health coverage.

Access to Capital

Hospitals require capital to modernize, expand, or renovate their physical plant and to purchase new equipment or replace old equipment as it wears out. Those with adequate operating margins can set aside funds to cover these costs; some may use government appropriations or private giving. The rest must borrow.

There are indications that the hospital industry as a whole is having greater difficulty borrowing than it once did. Credit ratings are being downgraded, even for large hospital chains.[58] Hospitals that are losing money, or barely breaking even, are necessarily even poorer candidates for loans. Rural hospitals may be having greater difficulty than others in obtaining access to capital. A 1988 survey by the Healthcare Financial Management Association (HFMA) compared the long-term debt/equity ratios of urban and rural facilities by bed size. The debt/equity ratio compares a hospital's long-term borrowing to its equity in physical plant and other holdings. A low ratio indicates that a hospital has less ability to borrow on its assets. HFMA found that rural hospitals with fewer than 100 beds had a ratio of 0.195, the lowest for any class of hospitals. Ratios for urban and larger rural hospitals tended to be in the range of 0.6 to 0.8.[59] Small hospitals were underrepresented in the HFMA survey, and the findings may not reflect the experience of all small rural hospitals. However, the figures do suggest that these hospitals may have much greater difficulty than others in obtaining capital.

For the hospitals most severely affected, the consequence may be that they will eventually be unable to replace even essential equipment as it wears out or breaks down. As was suggested earlier, there may be hospitals that are surviving by failing to fund depreciation. These hospitals could gradually find

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[58]See testimony of James L. Elrod, Jr., Dillon, Read & Co., before House Committee on Ways and Means, Subcommittee on Health, May 4, 1987. Fiscal Year 1988 Budget Reconciliation Issues Relating to the Reimbursement of Hospital Capital Expenditures under the Medicare Program. Washington, 1988. Serial 100-24.

[59]Old and Poor: Small Rurals on Financial Edge. Hospitals, Nov. 20, 1988. p. 32.

themselves curtailing basic services because basic upkeep has been postponed. For other hospitals, the problem may simply be an inability to adopt new medical technologies as they appear. There is a long-standing debate over whether it is appropriate for facilities to adopt technologies that their patient base cannot support. Still, if the gap between urban and rural technological capacity grows, the effect may be even more migration of patients to urban hospitals and further erosion of rural hospitals' patient base.

There have been efforts at the State level to improve access to capital for small hospitals. California, for example, has a loan guarantee program; however, participation has apparently been limited by some of the qualification requirements.[60] One Federal program, HUD-242, also may help some hospitals in obtaining loans. However, ProPAC has noted that only seven small rural hospitals obtained loans under this program in 1982-85.[61]

Hospitals' borrowing problems may have been compounded by recent shifts in Medicare treatment of hospital capital expenses. Capital costs are excluded from the prospective payment system (PPS), the fixed-price system, described in the next chapter, under which most Medicare payments to hospitals are made. Medicare pays for such expenses as interest and depreciation on a reasonable cost basis (i.e., the hospital's actual capital costs multiplied by Medicare's share of total hospital inpatient services). Since FY 1986, however, Medicare has been computing its share of capital costs and then taking a discount, 15 percent in FY 1989. Isolated hospitals designated as sole community hospitals are exempt from these capital payment cuts, but most rural hospitals have been affected. The capital payment discounts are scheduled to expire at the end of FY 1989. However, it is possible that they may be extended as part of a deficit reduction package.

In addition to these temporary discounts, current law provides that capital costs are to be included in the fixed PPS payment rates by FY 1992, instead of being paid on the basis of individual hospitals' actual expenses (the change might be phased in over a period of years). This change could benefit smaller rural hospitals, because they would receive an amount representing the average of their capital costs and the higher costs of larger rural facilities. For the present, however, uncertainty about the course of Medicare policy and the likelihood of hospitals' ability to recover capital costs in the future may have affected the lending policies of private financial institutions.

One final potential source of capital for many small hospitals is direct tax appropriations or borrowing by local governments. As was suggested earlier, economic distress in some rural areas may have limited the willingness or

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[60]Ibid.

[61]Prospective Payment Assessment Commission. Technical Appendixes to the Report and Recommendations to the Secretary, U.S. Department of Health and Human Services. Washington, Apr. 1987.

ability of communities to provide such assistance. In addition, there may be local governments whose own ability to borrow is limited. On the other hand, there is some evidence from a study of local hospital referenda that communities will approve taxation or borrowing to replace an existing facility more readily than funding to construct a new one.[62]

Certification and Staffing

Certification. Some financially distressed hospitals may find it increasingly difficult to meet the minimum standards required for State licensure or for certification as a qualified Medicare or Medicaid provider. Failure to meet these standards may even be the final event precipitating actual closure of many hospitals, although this failure is generally the final symptom of long-standing financial problems. At some point these hospitals can no longer sustain the costs of operating a facility that meets the minimum legal definition of a hospital.

A hospital may be required to maintain a certain number of staff on a 24-hour basis, although there are too few patients for the staff to treat. Very small hospitals may have widely fluctuating occupancy: half the beds full one day, only a single patient the next. Yet minimum staffing requirements may prevent them from adjusting their costs to reflect these short-term changes in volume. Other hospitals may have consistent cash flow problems that lead them to defer maintenance of rarely-used emergency equipment or to neglect other activities required under current standards.

Much of the discussion of this subject has centered on the problem of maintaining adequate nursing coverage. The effects of the reported nursing shortage on rural hospitals are discussed further below. However, many other certification standards may also present problems for rural hospitals. Under Medicare standards, for example, hospitals must have 24-hour laboratory and pharmacy capacity. They must meet detailed administrative standards in such areas as medical records and internal quality monitoring. They must maintain their plant and equipment and comply with standard procedures for such activities as food preparation and sanitation.

Medicare certification problems for rural hospitals appear to have increased in recent years. A hospital may qualify for Medicare payment by obtaining accreditation from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO, formerly JCAH), an independent review body. Those that do not have this accreditation are subject to direct Medicare review. Medicare also validates a small sample of hospitals accredited by

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[62]Fort, Rodney D., and Jon B. Christianson. Determinants of Public Services Provision in Rural Communities: Evidence from Voting on Hospital Referenda. American Journal of Agricultural Economics, May 1981. p. 228-236.

JCAHO. Medicare contracts with State certification agencies to conduct these surveys of hospitals. Medicare may also conduct its own "look-behind" surveys to confirm the findings of the State agencies.

Of all short-term hospitals (the following figures include some specialty facilities), 79 percent were accredited by JCAHO in 1987. Separate accreditation figures for urban and rural hospitals are not available, but there are data for hospitals by bed size; again, these data include facilities other than community hospitals. Of those with 6 to 24 beds, 23 percent are accredited. Of those with 25 to 49 beds, 46 percent are accredited. Thus many more small hospitals are subject to direct Medicare review by State survey agencies.[63]

Medicare hospital review activities have increased dramatically in recent years. In FY 1983, only 38 percent of hospitals subject to review were surveyed. By FY 1988, 75 percent of hospitals not accredited by JCAHO were surveyed. The full effect of this increased enforcement activity cannot be measured. Some hospitals have been involuntarily terminated from participation in the Medicare program. These numbers are small and not necessarily steadily increasing: there were 4 involuntary terminations in FY 1985, 18 in FY 1986, then just 8 in FY 1987.[64] There were many more voluntary terminations, which the Department of Health and Human Services (DHHS) says may include some providers that withdrew from Medicare rather than face expulsion. However, available statistics on voluntary terminations also include hospitals that closed or merged with other facilities.

Termination is only the final step in a process that includes notice of deficiencies, some opportunity to correct the problems (the time allowed may depend on the extent to which the problems threaten health or safety), and repeat inspections. Numerous rural hospitals may be at some point in this process. Many may be able to correct whatever deficiencies exist, though at the price of further financial pressure, while others may be terminated.

Some people say that the standards in use are too stringent for rural hospitals and that waivers should be granted for some of the requirements, such as 24-hour nurse staffing, that may be especially costly or burdensome for very small hospitals with fluctuating volume. A full evaluation of the current standards, and the potential effect of waivers of some of these standards on health or safety, is beyond the scope of this report. The standards currently in effect constitute a definition of what it is to be a

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[63]American Hospital Association. Hospital Statistics: 1988 Edition. Chicago, 1988.

[64]U.S. Department of Health and Human Services. Health Care Financing Administration. Justifications of Appropriation Estimates for Committee on Appropriations, Fiscal Year 1990. p. 71-86.

"hospital." The line between hospital/non-hospital could be drawn differently, but there may still be standards that at least some facilities cannot meet.

The alternative to revision is to grant exceptions for facilities that are essential to maintenance of access to care in isolated rural areas. If these exceptions are made, however, then the facilities being allowed to continue operation may not really be hospitals; they are some other kind of facility that meets certain of the needs of the populations they serve. The problem may be, not in the current standards, but in the concept that a facility is either a hospital or a nursing home, with nothing in between. It is possible to conceive of new kinds of inpatient facilities, licensed to provide certain types of care, especially the most urgent, but not to carry on all the functions of a general hospital. At the same time, the label "hospital" would retain its current meaning.

The possibility of developing new types of facilities, or new categories of licensure for existing facilities, will be explored further in Chapter 5. The remainder of this section considers the one certification problem that has received the greatest attention: the problem of maintaining professional staff, including both nurses and physicians.

Professional staffing. Although there have been reports that rural hospitals have been especially strained by recent difficulties in recruiting nurses, available evidence on this subject is ambiguous. In a December 1987 survey by the American Hospital Association, 45.2 percent of rural hospitals reported a moderate or severe shortage of registered nurses, compared to 71.3 percent of hospitals in urban areas with more than 1 million persons and 53.8 percent of hospitals in smaller urban areas. The incidence of reported shortages tended to increase with hospital size. Hospitals with fewer than 50 beds were least likely to report a shortage, hospitals with 500 or more beds the most likely.

Small and rural hospitals were the least likely to report changes in hospital operations resulting from the shortage, such as delayed admissions or surgery or temporary shutdowns of services. They were also somewhat less likely than other hospitals to resort to the use of overtime for nurses or to curtail low priority nursing activities. The major difficulty for rural hospitals appeared to be in recruiting nurses for night and evening shifts, or for positions that required rotation among shifts. Overall, their experience in this regard was not very different from that of urban hospitals.[66]

Overall, rural hospitals in 1987 were more likely than urban ones to report that they had no nursing vacancies. However, a subset of rural hospitals, especially those under 100 beds, had very high vacancy rates. Of hospitals with fewer than 50 beds, 37 percent reported a vacancy rate of 15

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[66]American Hospital Association. Center for Nursing. Report of the 1987 Hospital Nursing Demand Survey. Chicago, 1987.

percent or more.[66] For the very smallest hospitals, high nursing vacancy rates, particularly on night shifts, may result in an inability to meet the minimum staffing standards required for certification.

One contention made by some rural hospitals is that, while they may have been able to maintain adequate staffing, competition for nurses or for other allied health professionals may have driven up rural wages. This issue has been raised in the context of labor cost adjustments used in Medicare's inpatient hospital payment system; it will be addressed in detail in the next chapter.

Finally, some rural hospitals may have problems maintaining the physician affiliations that are essential for hospital survival. Some anecdotal accounts of hospital closures have emphasized that the final blow for a few hospitals was the death or departure of the town's last physician. Other accounts have stressed the reluctance of practitioners in communities with only one or two physicians to accept on-call responsibility, which may effectively chain them to the hospital's vicinity 24 hours a day.[67] Beyond the direct need for required on-call services, hospitals, of course, rely on physicians to generate inpatient admissions. If people must travel out of the community to obtain physician services, they may obtain hospital services out of the community as well.

The relative undersupply and maldistribution of physicians in rural areas, as well as in the inner cities, is well documented.[68] The number of physicians practicing in rural areas has been increasing. Physicians per 100,000 population in rural areas (excluding physicians not providing patient care) rose from 68.4 in 1975 to 92.0 in 1985, a 34.5 percent increase. The supply remains well below that in urban areas, 208.6 physicians per 100,000 in 1985. Within rural areas, the physicians are not evenly distributed, so that there remain areas with more severe shortages. In addition, as was noted earlier, many of the new physicians are specialists, while the number of family and general practitioners has declined. Of the 33.7 million people living in designated primary care health manpower shortage areas in 1988, 16 million were in rural areas, more than 1 in 3 rural residents. Fewer than 1 in 10 urban residents was in a manpower shortage area.

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[66]American Hospital Association data, cited in Report of the Secretary's Commission on Nursing. Washington, Dec. 1988, v. 2., p. IV-7.

[67]Some of these accounts are included in the Congressional Research Service's survey of staff of closed hospitals, the results of which will be published in the near future.

[68]The following discussion is drawn from Council on Graduate Medical Education. First Report, v. 2. Washington, 1988. p. 24-27.

While some people say that distribution will improve naturally as the supply of physicians continues to grow, there are concerns that some isolated or poor rural areas will continue to have difficulty attracting new physicians. Various solutions have been proposed to the problem of physician distribution. Preference in medical school admission or in financial assistance might be given to students committed (or deemed likely) to locate in underserved areas. Graduate training of physicians could be decentralized, with more educational activities in rural settings, on the theory that physicians trained in rural areas might be more willing to locate there. Finally, physician reimbursement policies, especially Medicare's, might be revised to correct perceived inequities that may create disincentives for physicians to practice in rural areas.[69]

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[69]For a discussion of Medicare treatment of rural physicians, see U.S. Library of Congress. Congressional Research Service. Medicare: Geographic Variations in Payments for Physician Services. CRS Report No. 88-775 EPW, by James A. Reuter. Washington, 1988.

CHAPTER 4. MEDICARE PAYMENT TO RURAL HOSPITALS

Both the American Hospital Association and the Prospective Payment Assessment Commission (ProPAC) have projected that in the current year most hospitals, whether rural or urban, are likely to have a negative margin under Medicare's prospective payment system (PPS).[70] That is, their payments under PPS will be less than the costs they incur in treating Medicare patients. Rural hospitals are more severely affected for two reasons. First, their losses on each case tend to be proportionately larger. Second, they are more dependent on Medicare payment and less able to make up their Medicare losses by increasing charges to other payers.

As the preceding chapter has shown, some rural hospitals face fundamental challenges that cannot be attributed to the policies of a single payer. Nevertheless, Medicare losses may compound the difficulties of hospitals that were already in financial distress and may gradually threaten the operation of hospitals that would otherwise be financially stable. In addition, Medicare is the major source of Federal funding for hospital services. If rural hospitals are to be assisted, changes in Medicare policy represent the most immediate action available to Congress.

Most congressional attention has focussed on features of the prospective payment system that differentiate between urban and rural hospitals. Rural hospitals routinely receive lower payments than urban ones for treatment of apparently comparable cases. As will be seen, these differentials are not in themselves the cause of most rural hospitals' Medicare losses. Some hospitals may be particularly affected by one or more components of the payment system. Overall, however, rural hospitals are losing money for the same reason that urban hospitals are: their costs per case are rising faster than the fixed prices established under PPS.

This chapter begins with a review of the major features of PPS for readers unfamiliar with the system.[71] This is followed by a discussion of the impact of PPS on hospitals generally, and the reasons that payments are not keeping pace with costs. The remainder of the chapter is devoted to the features of PPS that have a particular effect on rural hospitals. How valid are the current distinctions among classes of hospitals? What refinements in

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[70]Testimony, Carol M. McCarthy, American Hospital Association, and Stuart H. Altman, Prospective Payment Assessment Commission, before the House Committee on Ways and Means, Subcommittee on Health. Mar. 1, 1989.

[71]For a fuller explanation of the system, see U.S. Library of Congress. Congressional Research Service. Medicare: Prospective Payments for Inpatient Hospital Services. Issue Brief 87180, by Mark Merlis and Janet Lundy. (Regularly updated.)

the distinctions might make the system more equitable? The chapter concludes with a discussion of possible options for protecting certain essential facilities from any adverse effects of PPS.

Review of the Prospective Payment System

The current method of Medicare reimbursement for hospital inpatient services, known as the prospective payment system (PPS), was established by Congress under Title VI of the Social Security Amendments of 1983 (P.L. 98-21). This payment system became effective for hospital cost reporting periods that began on or after October 1, 1983. Before PPS, hospitals were paid retrospectively the full costs they incurred, subject to certain limits and tests of reasonableness. Under PPS, fixed hospital payment amounts are established in advance of the provision of services. Hospitals able to provide services for less than the fixed payment may retain the difference. Hospitals whose costs exceed the fixed payments will suffer a loss. PPS was intended to provide financial incentives for hospitals to contain their costs, thus potentially reducing costs to the Medicare program.

Basic PPS Payments

Medicare-eligible hospital inpatients are classified into one of approximately 470 diagnosis related groups (DRGs) based on the patient's diagnosis. Hospitals are paid a predetermined rate based on the patient's DRG classification; the rate is designed to represent the national average cost per case for treating a patient with that diagnosis. Separate PPS rates apply depending on whether a hospital is located in a large urban area (over 1 million people, or 970,000 in New England), other urban area, or rural area, as determined by the Metropolitan Statistical Area (MSA) system maintained by the Office of Management and Budget. The rates are adjusted for area differences in hospital wage levels. An area wage index is calculated for each MSA; a single wage index is established for all the rural areas in each State.

The national (urban and rural) PPS payment rates were phased in over a 4-year transition period. During the transition period, a hospital's payment rate was composed of a blend of a hospital-specific amount and the Federal DRG payment amount. In addition, the Federal DRG amount was based on a combination of national and regional payment amounts (the standardized payment amounts) for each of the nine census regions of the country. The transition was completed during FY88. Payments are now based on the Federal DRG amount, with no hospital-specific component. In most areas, the Federal amount is a fully national rate. In a few regions with historically higher costs, the Federal amounts will be based in part on regional rates until September 30, 1990. This final transition provision is known as the regional floor.

To determine the PPS payment to a hospital for a particular DRG, the applicable basic payment amount (adjusted by the wage index) is multiplied by the relative weight for that particular DRG. Each of the DRGs has been assigned its own weight which reflects the relative costliness of treating a patient in that DRG compared to the average Medicare patient.

The PPS payment rates are updated each year by the use of an "update factor." Before FY 1988, the same factor was used for all hospitals. For FY 1988 and FY 1989, separate factors have applied to hospitals according to location. Hospitals in rural areas and in large urban areas (MSAs with more than 1 million people, or 970,000 in New England) received larger increases than hospitals in smaller urban areas. Current law would end this distinction after FY89.

Originally, the update factors were supposed to be established by the Secretary, taking into account the recommendations of the Prospective Payment Assessment Commission (ProPAC). The Secretary was to consider the likely increase in the "market basket index," which measures the cost of goods and services purchased by hospitals, but could also make upward or downward adjustments to reflect other factors, such as improved efficiency or adoption of new medical technologies. However, the 99th and 100th Congresses repeatedly postponed the Secretary's authority to set the update factor and instead set the factors for FY86 through FY89 directly in legislation. For FY90 and all subsequent years, current law provides that the update factor is to be set equal to the market basket index, with no adjustments.

Additional Payment Amounts

In addition to the basic DRG payments, PPS hospitals may receive certain supplemental Medicare payments, of which the following are the most important:

Outliers. Additional amounts are paid for atypical cases (known as "outliers") which have either extremely long lengths of stay or extraordinarily high costs compared to most patients classified in the same DRG. Outlier payments are financed by an offsetting reduction in the DRG rates, with separate set-aside factors for urban and rural hospitals.

Indirect medical education costs. Additional payments are made to compensate for the indirect costs associated with the presence of approved graduate medical education programs (residency training).

Disproportionate share hospitals. Additional payments are made to hospitals that serve a disproportionate share of low-income patients, including low-income aged and disabled persons who are enrolled in both Medicare and Medicaid, as well as persons receiving Medicaid alone.

Medicare Payments outside PPS

Costs for certain items are excluded from PPS and thus are not included in the PPS rates. Medicare pays for its share of the following major expense categories on the basis of the actual reasonable costs or special formulas:

Direct medical education costs. Hospitals' direct costs of approved medical education programs (salaries of residents and teachers and other costs for training residents, nurses, and allied health professionals) are excluded from PPS. The costs of residency training programs for physicians are covered through formula payments based on each hospital's per resident costs. The direct costs for training nurses and allied health professionals are paid on a reasonable cost basis.

Capital-related costs. Capital-related costs (including depreciation, leases and rentals, interest, and a separate return on equity payment for proprietary hospitals) are excluded from PPS and are paid for on a reasonable cost basis (i.e., the hospital's actual capital costs multiplied by Medicare's share of total hospital inpatient services). For several years, Medicare has been paying a reduced share of capital costs. The capital payment reduction is 15 percent for FY 1989. Under current law, no reduction would be in effect during FY 1990.

Special Treatment of Certain Facilities

Certain facilities receive special treatment under PPS as follows:

Sole community hospitals. Sole community hospitals (SCHs) are hospitals that (because of factors such as isolated location, weather conditions, travel conditions, or absence of other hospitals) are the sole source of inpatient services reasonably available in a geographic area. SCHs continue to be paid on the same basis as all other hospitals were paid in the first year of the PPS transition period: 25 percent of the payment is based on federal regional DRG rates and 75 percent on each hospital's cost base. For cost reporting periods beginning on or after October 1, 1983, and before October 1, 1990, an SCH may request additional payments if it experiences a decrease of more than 5% in its total inpatient discharges due to circumstances beyond its control. An SCH may take advantage of the volume adjustment even if it chooses not to receive its basic PPS payments under the special SCH rules.

Referral centers. A rural hospital may apply for designation as a referral center if it has more than 275 beds, if its Medicare caseload is made up chiefly of patients referred from outside the immediate area, or if it meets a combination of criteria relating to such factors as the severity and number of the cases it treats. Hospitals meeting these criteria are paid according to the payment rates for "other urban" areas (those with fewer than 1,000,000 persons) rather than the rural rates, adjusted by the hospital's area wage index, for a 3-year period. P.L. 99-509 (OBRA 86) provided that hospitals

classified as referral centers on the date of enactment (October 21, 1986) would retain that status through cost reporting periods beginning before October 1, 1989. An indeterminate number of hospitals benefiting from this extension may lose their designation on that date and revert to rural PPS payment rates.

Excluded hospitals. Finally, Medicare payments to certain hospitals or parts of hospitals are made through systems other than PPS. These include special facilities, such as psychiatric, rehabilitation, children's, cancer research centers, and long-term hospitals. In addition, a State that has established its own prospective systems for setting hospital rates may apply for a waiver to permit Medicare to participate in that system, paying the State-defined rates instead of those that would be paid under PPS. Only Maryland still has such a waiver.

The Impact of PPS

PPS provided, at the outset, financial gains for most hospitals. Although the system was intended to be budget neutral in its first years (that is, to produce total outlays no higher or lower than would have occurred under the previous payment system), hospitals' Medicare revenues initially rose much faster than their costs. As a result, the average hospital enjoyed a positive PPS margin, or profit, on its Medicare cases during the first 4 years of PPS.[72] Margins began to decline after the first 2 years. By the fifth year hospitals were, in the aggregate, just breaking even.

Table 4.1 shows ProPAC's estimates of the percent change in costs, revenues, and PPS operating margins for the first 6 years of PPS. (The figures are aggregates, total costs and revenues for the entire system. The margins shown reflect the total excess of Medicare payments over Medicare costs.) Costs in the current year cannot be estimated. However, if they have continued to rise at the 9 to 10 percent rate characteristic of the last several years, aggregate Medicare costs are now exceeding Medicare payments.

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[72]The PPS margin is equal to revenues received under PPS minus the costs intended to be covered by PPS payments, divided by revenues received under PPS, then multiplied by 100. It excludes Medicare revenues and costs for activities covered outside PPS, such as capital expenditures and the direct costs of medical education.

TABLE 4.1. Estimated Changes in Hospitals' PPS Costs, Revenue, and Operating Margin, 1984-1989

	Percent change, revenue per case	Cumulative change	Percent change, cost per case	Cumulative change	PPS margin[a]
PPS year[b]					
PPS 1 (84)	18.7	18.7	2.2	2.2	14.3
PPS 2 (85)	10.5	31.2	10.2	12.6	14.4
PPS 3 (86)	3.2	35.4	10.1	24.0	9.4
PPS 4 (87)	4.3	41.2	9.9	36.3	5.2
PPS 5 (88)	4.5[c]	47.5[c]	9.0[c]	48.5[c]	0.0[c]
PPS 6 (89)	6.3[c]	56.8[c]	---	---	---

a/ The PPS margin is equal to revenues received under PPS minus the costs intended to be covered by PPS payments, divided by revenues received under PPS, then multiplied by 100. It excludes Medicare revenues and costs for activities covered outside PPS, such as capital expenditures and the direct costs of medical education.

b/ For each hospital, PPS took effect on the first day of the hospital's own fiscal year beginning in Federal fiscal year 1984.

c/ Preliminary estimates.

Source: Prospective Payment Assessment Commission. Unpublished estimates, April 1989.

Even when hospitals in the aggregate were earning surpluses under PPS, not all hospitals did equally well. Urban and teaching hospitals had the highest margins, small rural hospitals the lowest. In the first year of PPS, 20 percent of hospitals were estimated to have negative margins; the proportion was higher in rural areas. By the third year, ProPAC estimates that 36 percent of hospitals were losing money under PPS.

Within any class of hospitals, there were winners and losers. Table 4.2 shows ProPAC's estimates of average margins by hospital type for the third year of PPS, and then the breakdown of hospitals by percentile. In that year, the average margin for all hospitals was 8.2 percent, but 50 percent of hospitals had margins at or below the median margin of 5.1 percent. The bottom 10 percent of hospitals had margins averaging -18.5 percent. Among the smallest rural hospitals, the bottom 10 percent had margins averaging minus 44.7 percent. That is, their Medicare costs were equal to 145 percent of their Medicare revenues. Still, even in this most vulnerable class of

hospitals, some were doing very well. The top 10 percent had margins averaging 19.3 percent, almost the same as the average for the top 10 percent of hospitals nationally.

TABLE 4.2. Third-Year PPS Operating Margins: Means and Percentiles by Hospital Type

	Mean	10th percentile	Median	90th percentile
All hospitals	8.2	-18.5	5.1	19.4
Urban	8.9	-8.3	7.8	21.3
Rural	4.6	-28.5	1.3	17.7
Rural, bed size:				
Under 50	-0.7	-44.7	-1.0	19.3
50-99	2.6	-18.5	2.5	16.2
100-169	2.5	-13.9	1.7	15.7
170 and over	10.5	-8.5	4.2	18.2
Rural referral	15.3	-4.7	9.1	18.9
Sole community	3.1	-31.2	1.8	21.2
Other rural	0.9	-30.0	0.4	16.9

NOTE: Data exclude hospitals in Maryland, Massachusetts, New Jersey, and New York. Maryland hospitals are paid outside PPS; the other three States joined the system late.

Source: Prospective Payment Assessment Commission.

The reasons for the large variations in hospitals' financial performance under PPS will be explored further below. First, however, it may be useful to review the broader trends. Why were most hospitals realizing a surplus under PPS in its first years? Why do most now have costs greater than their PPS payments?

Two major factors contributed to hospitals' initial surpluses under PPS. First, most hospitals were able to respond to the financial incentives of the new system by increasing their efficiency, by shifting some patients to outpatient settings, and by reducing the length of time patients stayed in the hospital. Hospitals costs for Medicare patients rose at a rate below inflation in the first year of PPS.

Second, hospitals' average PPS payments were higher than anticipated. This was chiefly due to a change in the kinds of Medicare cases hospitals

reported treating; each year, more cases fell into the higher-paying DRGs and fewer into the lower-paying ones. Part of the change was real, reflecting hospitals' decisions to admit only more seriously ill patients while treating others on an outpatient basis, while part of the change resulted from improved accuracy in hospitals' reporting on their patients.

Partly in response to early reports of hospital profits under PPS, and partly in response to deficit reduction pressures, the 99th and 100th Congresses repeatedly set the update factor, the annual increase in basic PPS rates, below the actual rate of inflation in goods and services hospitals buy, as measured by the market basket index.

As table 4.3 indicates, these update factors were below the market basket index. The market basket index increased 18.9 percent in the years 1986-89, while the cumulative value of the update factors was 6.7 percent. However, the average Medicare payment per case rose faster than the update factors. This is because the update factor is not the only element affecting payment increases. The shift of cases to higher cost DRGs continued. This trend is measured by the "case mix index" shown on the table. In addition, payments have increased as a result of changes in policies relating to add-on payments (such as those for medical education and disproportionate share hospitals). Overall, PPS payments are estimated to have increased by 19.0 percent over the 1986-89, about the same rate as the market basket index.[73]

TABLE 4.3. Historical Trends in Factors Affecting the PPS Rates and Average Payments per Case
(Percentage change from the previous year)

	1982	1983	1984	1985	1986	1987	1988	1989
Market basket index	8.3	5.9	4.9	4.1	3.1	4.5	4.7	5.4
Annual update factor					0.5[a]	1.15[b]	1.6[c]	3.3[c]
Case mix index			8.4	2.5	2.7	2.4	2.0	1.0
Average payment per discharge	14.0	10.4	10.4	14.9	7.1	4.1	2.9	3.8
GNP deflator	6.4	3.8	3.9	3.4	2.9	3.2	3.1	4.0

Source: U.S. Congress. House. Committee on Ways and Means. Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means. [WMCP: 101-4] Mar. 1989. p. 293.

[73]The payment per case figures shown on table 4.3 differ from those shown on table 4.1 because table 4.3 is based on fiscal years, while table 4.1 is based on "PPS years." Because different hospitals began receiving PPS payments at different times during FY 1984, PPS years overlap fiscal years.

However, hospitals' costs were rising faster than inflation. A small portion of the increase was due to the fact that hospitals were treating more seriously ill patients. As noted above, part of the shift of cases to higher-cost DRGs was actual, not just a function of how hospitals reported cases. However, most of the increase in hospital cost is unexplained. Some people argue that the increases are due to circumstances beyond the hospitals' control, such as the adoption of costly new medical technologies. Others say that hospitals, buoyed by their early financial success under PPS, stopped working to improve efficiency.

As was shown in table 4.1, the result of cost increases in excess of the rate of inflation was that aggregate PPS payments equalled costs in the fifth year of PPS and may now be below costs. This shortfall, whether justifiable or not, has two important implications for the debate over PPS treatment of rural hospitals. First, some of the losses rural hospitals are suffering are attributable to the general trends in the system, not to the differential treatment of urban and rural hospitals. Second, any measures to increase Medicare funding to rural hospitals without increasing the budget deficit will mean reducing payments to other hospitals that are also losing money on their Medicare cases.

Differences in PPS Payments to Urban and Rural Hospitals

Various provisions of PPS result in different levels of payment for urban and rural hospitals. Some payment rules, such as the separate urban and rural standardized amounts and the area wage adjustments, explicitly distinguish among hospitals in different areas. Other components of the system are not based on geography, such as the DRG weighting factors and the special additional payments for certain hospitals or cases. However, these factors tend to further increase the gap between urban and rural hospital payments.

Table 4.4 shows the difference in FY 1989 average payments per case for urban and rural hospitals, along with the major factors contributing to that difference. First, the average standardized amount for urban hospitals is 12.9 percent higher than that for rural hospitals. The difference is much greater, 26.7 percent, for the average wage index. The wage index value is applied to only the "labor-related" component of the basic standardized amount, about 74 percent of the total amount in FY 1989. Still, the wage index alone would result in a 19.7 percent difference in average large urban and rural payments even if there were no difference in the standardized amounts.

TABLE 4.4. Factors in Urban and Rural Hospital Payments under Medicare Prospective Payment System, FY 1989

	Urban	Rural	Percent difference
Standardized amount	$3,199.74[a]	$2,834.71	12.9%
Wage index[b]	1.025	0.809	26.7%
Case mix index (FY 87)[b]	1.284	1.108	15.9%
Additional payments as percent of basic PPS payment	17.10%[c]	3.73%	12.9%
Final difference, average payment per case, FY 89	$4,836.00	$2,888.00	67.5%

a/ Weighted by number of hospitals in large urban and other urban areas.

b/ Weighted by number of Medicare discharges.

c/ Urban estimate includes rural hospitals paid under urban rate.

Sources: Federal Register, vol. 53, no. 190 (Sept. 30, 1988), p. 38543 and 38637-8. House Committee on Ways and Means. Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means. Ways and Means Comm. Prt. 101-4. Washington. 1989. p. 326 and 335.

Next, there are differences in the types of cases being treated by urban and rural hospitals. The "case mix index" for a particular hospital is the average of the DRG weightings for all the cases treated by that hospital during a given period. A hospital with a case mix index of 1.2 is treating more cases in high-weighted DRGs than a hospital with a case mix index of 0.8. As the table indicates, the average DRG weights for cases treated in urban hospitals are 15.88 percent above those for cases treated in rural hospitals.

Finally, urban hospitals are much more likely to benefit from the provisions for additional PPS payments. Teaching hospitals tend to be in cities, as do the hospitals qualifying for the disproportionate share adjustment. In addition, more cases in urban hospitals qualify as outliers, because of very high costs or long stays. Overall, urban hospitals derive nearly four times as much of their PPS reimbursement from these add-on provisions than rural hospitals do. Major teaching hospitals receive more than a third of their PPS reimbursement in the form of payments over and above the basic rates.

The combined effect is that the average PPS payment for cases treated in urban hospitals in FY 1989 is expected to be 67.45 percent higher than the average payment for cases in rural hospitals. Even if case mix were equal--that is, if urban and rural hospitals were treating patients classed in the same DRGs--there would still be a substantial differential in urban and rural payments.

Congress has taken a variety of steps over the years since 1983 to narrow the differences in urban and rural PPS payments. There have been changes in the methods used to compute the standardized amounts and the wage index values. A higher update factor, the percentage used to determine annual increases in the standardized amounts, was used for rural rates than for urban ones in FY 1988 and FY 1989. Rural hospitals have also benefited from changes in the outlier payment system. The effect of all these changes has been that average payment to a rural hospital for a case in a given DRG rose nearly twice as fast as the average payment to an urban hospital during FY 1987 and FY 1988. Still, the major disparities remain.

The payment differentials currently in effect are based on real numbers. They reflect actual historical differences in the operating costs of typical urban and rural hospitals, in the wages paid by hospitals in different areas, and in the relative costs for patients with different diagnoses. Some PPS adjustments, such as the payment for indirect medical education costs, are less firmly tied to hard data. Nevertheless, the overall system is not, as some critics have suggested, based on unfounded presumptions about relative urban and rural costs. Rural hospitals really did have lower average costs than urban ones in the pre-PPS period.

The most recent evidence available suggests that the difference in urban and rural costs has not changed appreciably in the years since PPS was implemented. Unpublished projections by the American Hospital Association

indicate that the average cost for Medicare cases treated in urban hospitals in FY 1990 will be 70.6 percent higher than that for Medicare cases treated in rural hospitals. The average urban PPS payment per case will be 69.2 percent higher. (The Congressional Budget Office projects that the average PPS payment difference in FY 1990 will be 66.9 percent.) In the aggregate, the urban/rural payment differentials under PPS do not overstate the real differences in the cost of treating Medicare patients in urban and rural hospitals. On the contrary, they slightly understate the differences, possibly because of the favorable treatment extended to rural hospitals in OBRA 87. That the payment differential is smaller than the cost differential is suggested by the fact that AHA projects an aggregate margin for rural hospitals higher than that for urban hospitals in FY 1990 (though still negative).

However, the aggregate data tend to reflect the experience of the largest rural hospitals, those treating the greatest numbers of Medicare patients. As table 4.2 indicated, the largest rural hospitals had higher PPS margins than a typical urban hospital in the third year of PPS, while smaller rural hospitals were doing much worse. There is no reason to suppose this pattern has changed in subsequent years. What the aggregate data fail to show is that small rural hospitals' costs per Medicare case were rising faster than the average for all hospitals. Many small hospitals were relatively disadvantaged even in the first year of PPS, and they have since fallen further behind.

Some small rural hospitals may be suffering large PPS losses because of special problems, such as unusually high labor costs or a random occurrence of seriously ill patients whose severity is not reflected in the DRG classifications. These possibilities will be discussed further below. However, most small rural hospitals are probably losing money under PPS for the same reason that they are losing money generally: an inability to adjust their costs to falling occupancy rates.

PPS penalizes hospitals whose occupancy rates fall below the average for the class of hospitals to which they are assigned and that are not able to adjust their costs accordingly. This was not so under the previous retrospective cost-based system. Under the old system, if a hospital was half full, but half the patients it was treating were Medicare patients, Medicare paid half of the entire cost of operating the hospital. If a tiny hospital had only one patient on certain days--as can sometimes happen in the very smallest hospitals--then if that patient was a Medicare beneficiary, Medicare in effect paid the whole cost of operating the hospital on those days.

Under PPS, however, Medicare pays flat rates that are based on the aggregate experience of all hospitals. These rates do not inherently penalize empty beds. Empty beds are built into the rates to the extent that there were empty beds in all hospitals in 1981, the cost year on which PPS rates are based. The hospitals that lose under this system are those whose occupancy rates were lower than their peers' in the base year or whose occupancy rates have fallen more rapidly in the years since then, because the rates do not reflect their relatively higher fixed costs per case.

As was shown in Chapter 3, although occupancy in all hospitals dropped steadily during the 1980s, occupancy in the smallest rural hospitals plummeted. Most of this change occurred before the implementation of PPS. For example, the average daily census in rural hospitals with 6 to 24 beds dropped 22 percent between 1980 and 1984, and 14 percent in the next 2 years. Overall, rural hospitals' average census fell at the same rate as the total for U.S. hospitals in the post-PPS years 1984-86, about 9 percent. In the pre-PPS years, 1980-84, the decline in average rural census was much greater, 13.3 percent as compared to 4.7 percent for all U.S. hospitals. The average rural hospital was, then, relatively disadvantaged the day PPS began, because its occupancy rate had declined significantly from that in the 1981 base year; the smallest hospitals were even more disadvantaged.

In the aggregate, then, the sizeable losses of many small rural hospitals under PPS appear to be largely due, not to inequities in the design of specific components of the payment system, but to two more fundamental factors:

- Congress has applied general rate restraint to all Medicare hospital payments. Although rural hospitals have been treated slightly more favorably in this process, they shared with other hospitals the problem of rates rising more slowly than inflation.

- PPS rates continue to reflect data from the 1981 base year, inflated to the current year through the update factors. They do not reflect the increase in small rural hospital costs per case resulting from declining occupancy. Urban costs have also risen, even faster than those in rural hospitals. However, urban hospitals have been able to make up much of the difference by billing for more cases in the higher-priced DRGs. Small rural hospitals have been unable to do so, for reasons discussed further below.

The Equity of PPS Differentials

As was shown in the previous section, the aggregate differentials in urban and rural PPS payments closely correspond to aggregate differences in the costs of treating Medicare patients. However, many small rural hospitals apparently have higher costs per case (after correcting for the types of patients they are treating) than the overall rural average. Some of these differences might be compensated for by technical changes in PPS. For example, modification of the current system of area wage adjustments might assist certain hospitals that are obliged to pay higher wages than the other hospitals with which they have been classed. Changes in the system of outlier payments for very costly patients might help hospitals affected by random incidence of very severely ill patients. However, if it is the case that the major factor in small rural hospitals' losses is the PPS penalty for low occupancy, more fundamental revisions in PPS might be necessary to assist these facilities.

This section examines in greater detail the individual components of the PPS payment rates. How appropriate or accurate are the various rate adjustments? What changes might be made in them to help some or all rural hospitals? The final section of the chapter considers the problem of hospitals whose financial distress is so great that technical modifications in PPS might not eliminate their losses.

The Basic Urban-Rural Differential

The use of separate standardized amounts for large urban, other urban, and rural hospitals accounts for about one-fifth of the average difference in urban and rural payments. On average, the base rural payment amount is nearly 13 percent below that used for urban hospitals.

The 1982 Department of Health and Human Services (DHHS) proposal that formed the basis for PPS did not call for different urban and rural standardized amounts, but contemplated a single national rate. The urban/rural differential was added, along with the temporary blend of regional and national rates, when the House Ways and Means Committee considered PPS as part of H.R. 1900, the Social Security Amendments of 1983. Both provisions were intended to ease the transition to PPS by avoiding rapid redistributions of Medicare revenues. As enacted (P.L. 98-21), the law phased out regional rates over a 3 year period (later changed to 4 years, and further extended through FY 1990 for some regions). No such automatic sunset was provided for the urban/rural differential. Instead, the Secretary was required to report, no later than September 30, 1985, on the feasibility and impact of eliminating or phasing out the differential. (The report was actually submitted in December 1987.)

Both the urban/rural differential and the regional rates allowed PPS to account for some of the observed geographic differences in hospital operating costs that were not explained by the other price adjustments included in the system, such as the DRG weights, the wage index, and the allowance for teaching costs. It was known that hospitals' costs could vary because of such factors as the prices of non-labor inputs or differences in severity of illness not captured by the DRG classification system. The urban/rural differential and the regional rates were temporary proxies for sources of cost variation that could not be measured.[74]

Generally, researchers have found that the variation in urban and rural costs not explained by the other adjustments under PPS is in the range of 10 to 15 percent. The average differential in the urban and rural standardized

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[74]SysteMetrics/McGraw-Hill. Urban and Rural Cost Differences: Literature Synthesis and Review. Report for Prospective Payment Assessment Commission. Washington, 1989. Technical Report No. E-89-01. The following summary of research in this area is drawn in part from this report.

amounts, 13 percent, falls within this range. The differential is, then, continuing to perform its function of standing in for some other variables. Researchers have investigated the extent to which adding some other index to PPS, such as an adjustment for bed size or severity of illness not measured by the DRGs, might reduce the amount of unexplained variation.

Bed size does explain some of the urban/rural cost difference. Regardless of whether they are urban or rural, large hospitals have higher costs than small ones, even after correcting for labor prices and case mix. This is counterintuitive: one would expect larger institutions to benefit from economies of scale. That they do not has led investigators to suspect that there is something different about the types of patients larger hospitals are treating or the way they are treating them.

One possibility is that the urban hospitals are treating more seriously ill patients, but the severity of their illness is not accounted by the current DRG classifications. Satisfactory direct measures of relative severity of cases within a single DRG are still under development. This issue is discussed further later in this chapter.[75] Several studies have focussed on differences in the way hospitals treat patients: the quantity or intensity of the services furnished to cases with a given diagnosis, or the types of services the hospital offers. These factors do seem to explain much of the difference in urban and rural costs. Patients in urban hospitals appear to receive more services, or more intensive services, than patients in rural hospitals with the same diagnosis. They may, for example, receive more laboratory tests or x-rays. Urban hospitals also have, and use in treating patients, expensive diagnostic and therapeutic equipment that many rural hospitals lack.

Overall, the evidence suggests that higher costs in urban hospitals are due in part to differences in severity that we cannot yet fully measure and in part to more aggressive and technology-intensive treatment. If the two factors could be fully separated, so that it would be possible to say exactly how much of the cost difference stemmed from different treatment patterns, then the question would arise: is it appropriate to pay more for more aggressive treatment of patients who are not more seriously ill?

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[75]Some studies have proposed that indirect measures of severity, such as the extent to which a hospital receives transfers or referrals from other hospitals, may be more workable. Hospitals receiving patients from other hospitals do have higher costs. If one assumes that hospitals transfer only the most seriously ill patients to other hospitals, measurement of these patterns might eventually form the basis for an index that could substitute for some or all of the urban/rural differential. This was the suggestion offered by the Secretary in the required report on the urban/rural differential. U.S. Department of Health and Human Services. Report to Congress: Studies of Urban/Rural and Related Geographical Adjustments in the Medicare Prospective Payment System. Washington, Dec. 1987.

This question is at the center of some rural hospital advocates' criticisms of the urban/rural differential. They say that urban hospitals are being paid more to provide more elaborate treatment whose efficacy has not been proven. There is considerable debate over whether some of the additional services make very much difference in patient outcomes, such as mortality rates, or whether they are simply furnished because they are available. The question of the relative utility and cost-effectiveness of different medical procedures has emerged as a central one in future efforts to control the growth in health care costs. But much more research will be needed before we can say with any confidence that one way of treating a patient is efficient and the other wasteful.

The situation at this time, then, is that there is uncertainty about the extent to which urban hospitals' patients are more seriously ill and the extent to which the more elaborate treatments they receive are necessary. While these questions are being resolved, the urban/rural differential presents two immediate issues.

The first is where the burden of proof should lie. Should Medicare go on paying urban hospitals more until there is some proof that their current practices are wasteful? Or should the differential be eliminated, placing the burden on urban hospitals to demonstrate that their patients really are sicker or benefit from more aggressive treatment?

The second issue is whether a differential should be maintained even if it is shown that the more intensive care furnished in urban hospitals is actually necessary and effective. Urban hospitals have the elaborate equipment they do because they have always had more money. If rural hospitals were paid at the same rates as urban ones, they might be able to improve their equipment and provide care comparable to that furnished by urban hospitals. This may not always be so. Some kinds of technology are so costly that a very large patient population is required to support them; a degree of centralization may be inevitable. Still, it is possible that providing more funds to rural hospitals could help them bridge some of the current gaps in services.

If there were no budgetary pressures, these questions could be bypassed. All hospitals could be paid at the current urban rates while research continued; meanwhile, rural hospitals would have an opportunity to upgrade services. However, raising rural rates to the current urban level without lowering urban rates would significantly increase costs at a time when Congress is considering a reduction in overall Medicare spending.

For this reason, most proposals to eliminate the differential are "budget neutral": they would raise the rural rate and lower the urban one to a single national average rate that would not increase total spending. Because urban hospitals treat so many more patients than rural ones, the increase for rural hospitals would be larger than the decrease for urban ones. The 13 percent overall difference in the urban and rural rates for FY 1989 could be

eliminated by raising rural rates 11 percent and reducing urban rates by 2 percent. As was noted earlier, however, many urban hospitals may also be losing money under PPS. Moreover, the 2 percent cut might be in addition to other Medicare payment cuts included in a deficit reduction package. Urban hospitals would say that this approach would relieve financial pressure on rural hospitals only by creating new pressures for urban ones.

The Area Wage Index

Although the urban/rural differential in basic PPS payment amounts has attracted greater attention, the adjustment of these amounts to reflect local differences in labor costs is much more important in determining relative urban and rural reimbursement levels.

The current adjustment has been criticized by rural hospitals on two major counts. First, it is claimed that the data on which the adjustment is based are obsolete and that the gap between urban and rural labor costs has narrowed in recent years. Second, there are concerns about the way labor market areas are defined; some hospitals classified as rural argue that they are competing with urban areas in recruiting skilled workers. In addition to these major issues, there are some more technical considerations that may affect the validity of the index for some rural hospitals.

Basic index values. The current wage index values are based on two surveys of hospitals conducted in 1982 and 1984 by the Health Care Financing Administration (HCFA), the agency that administers the Medicare program. Each hospital reported total paid hours and total payroll. For each labor market area and for the country as a whole, HCFA determines an average hourly wage.[76] The wage index value for a given area is the average hourly wage in that area divided by the national average hourly wage. A separate wage index value is computed for each metropolitan statistical area (MSA). In each State, all areas outside MSAs are grouped together to produce a single rural wage index for the State.

For FY 1989, the index values in use represent an equal blend of the 1982 and 1984 values. (HCFA initially proposed, in May 1988, to set the FY 1989 index on the basis of the 1984 data alone, but ultimately retained the 1982/1984 blend in order to prevent abrupt changes in values for particular areas.)

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[76]Before 1987, HCFA divided dollars by the number of employees, rather than by the number of hours worked. If one hospital paid two part-time workers $10,000 each, while another used a full-time $20,000 worker to perform the same tasks, the first hospital was deemed to have wages half as high as the second. Rural hospitals argued that they were disadvantaged, because they were more likely to use part-time workers. The change to a system based on hours worked was intended to address this concern.

OBRA 87 required HCFA to update the wage index values on the basis of new survey data no later than FY 1991 and every three years thereafter. HCFA is in the process of conducting the required survey. Although hospital responses will be available in the near future, HCFA does not expect that it will be technically possible to review those responses in time to modify the index for FY 1990, the year beginning October 1, 1989. Thus the index values for the coming year will continue to be based on data reflecting prevailing wages five years ago.

Rural hospitals contend that growing competition for skilled hospital labor, particularly nurses, has recently forced them to offer wages much closer to urban levels. They say that the continued use of older data fails to reflect a narrowing of the gap between urban and rural wages.

If it is the case that the relative difference in urban and rural wage levels has diminished in recent years, this trend must be a very recent one. It is not evident in a comparison of the index values for 1982 and 1984. Between those two years the rural index for an average State rose just half a percentage point, from .8369 to .8418.[77] In a few States the changes were more dramatic. For example, relative rural wages rose 10 percent in Minnesota and 7 percent in Kentucky. These increases were offset by declines in other States. Overall, the gap between urban and rural wages does not appear to have narrowed significantly during this period.

Any changes since 1984 will become apparent when data from the new HCFA survey are available. Until then, there are a few indicators that may help in assessing the claim that rural wages have drawn closer to urban levels.

First, AHA publishes information on total hospital payrolls and on the number of full-time equivalent (FTE) hospital employees. Table 4.5 shows the overall difference in payroll cost per FTE (with and without fringe benefits) in rural and urban community hospitals in 1987. The index values implied by the AHA figures--1.035 for urban hospitals and 81.8 for rural hospitals--are unlikely to be exactly equivalent to the figures that would have been arrived at for the same year using HCFA's survey methodology.[78] Still, they

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[77]The 1982 and 1984 values have been inferred by the Congressional Research Service from a comparison of the blended index values published in the September 30, 1988, Federal Register, and the proposed values, based on 1984 data alone, published in the May 27, 1988, Federal Register. The 1982 values were corrected by HCFA, for the blended computation, to reflect the revised methodology described above.

[78]For example, they may include some types of salaried physicians, such as radiologists, anesthesiologists, and pathologists, who are excluded from the HCFA survey. It should be noted, however, that the HCFA survey does not exclude other types of physicians, such as salaried physicians in emergency departments. As urban hospitals are more likely to have salaried staff

are very close to the actual wage index values currently in use, estimated by the Congressional Budget Office at an average of 1.025 for urban hospitals and 0.809 for rural hospitals. This would suggest that, on a national aggregate basis, the gap between urban and rural wage levels has not narrowed significantly.

TABLE 4.5. Rural and Urban Costs per Full-Time Equivalent Employee, Community Hospitals, 1987

	Rural	Urban	Total
Full-time equivalent (FTE) personnel	500,050	2,613,557	3,113,607
Payroll (000s)	$8,976,231	$59,329,542	$68,305,773
Wages per FTE	$17,951	$22,701	$21,938
Wages relative to national average	81.8%	103.5%	100.0%
Payroll plus benefits (000s)	$10,542,535	$70,449,775	$80,992,310
Total cost per FTE	$21,083	$26,956	$26,012
Cost relative to national average	81.0%	103.6%	100.0%

Source: American Hospital Association. Hospital Statistics, 1988 Edition. Chicago. 1988. Table 6.

Even if the overall difference in urban and rural hospital wages is accurately reflected in the index values, there are contentions that the smallest or most isolated rural hospitals have been especially affected by the nursing shortage. They may have had to raise nurses' wages in order to maintain the minimum complement of nursing staff required to meet certification standards. Until the HCFA wage survey is completed, it is difficult to assess these claims. There do exist survey data on wage levels for hospital staff nurses. Unfortunately, these figures are not compiled separately for urban and rural areas. However, data based on hospital size are available; it is possible, for example, to compare the ranges of salaries for hospitals with

physicians (other than interns and residents) than rural ones, their inclusion may have biased the wage index slightly against urban hospitals. The distortion may not be significant, however, since such physicians make up only one percent of payroll even in urban hospitals.

fewer than 100 beds and for hospitals with 300 to 599 beds.[79] Hospitals in the first group tend to be rural; those in the second, urban.

In five of the nine regions, the highest salary offered by the smaller hospitals is lower than the lowest salary offered by the larger hospitals. However, there are important exceptions. In the West South Central region, the highest salary reported by small hospitals was $27,300, more than the highest salary reported by larger facilities. In the Pacific, the lowest salary reported by small hospitals was higher than the highest salary reported by the larger ones. The use of hospital size as a proxy for urban or rural location may be questionable. Wages could vary by hospital size, regardless of location. However, it does appear possible that there are areas where rural hospitals are paying at least as much for nursing services as rural hospitals are. Whether this is true for other types of health occupations is not known.

Overall, the very limited data available at this time suggest that there may still be real differences in overall rural and urban wage levels at the national level, although there may be regions where the gap has narrowed. Again, this issue will presumably be settled when data from the new HCFA survey become available. The second major concern about the wage index, that it fails to distinguish different labor markets within rural areas, will remain a subject of contention.

Defining market areas. Under the current system, each Metropolitan Statistical Area (MSA) is regarded as a single labor market and has its own wage index. All the counties in each State that are outside MSAs are treated as a single labor market; one rural wage index is established for each State. (Some non-MSA counties have been classed with an adjacent MSA, for PPS purposes only, by legislation.)

An MSA must have a total population of at least 100,000 and must include either a city of 50,000 or an "urbanized area" of 50,000. Generally an urbanized area has a population density of at least 1,000 persons per square mile.[80] Some MSAs do not meet these criteria but have retained the classification under previous criteria or have been granted MSA status by congressional action. A county outside the central city or urbanized area of an MSA is included in the MSA if it meets standards relating to the extent to which residents commute to or from the central city.

Whatever the current overall difference between urban and rural wage levels, there may be considerable variation in wage levels within rural areas. A rural hospital close to an MSA may have to compete for skilled employees with the hospitals located within the MSA, even though its county does not

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[79]Data were provided by American Nurses Association, based on a March 1988 survey by Hospital Compensation Service.

[80]Federal Register, v. 45, n. 2, Jan. 3, 1980, p. 957.

meet the commuting standards for inclusion in the MSA. Such a hospital may have to offer wages that are higher than those of other rural hospitals. Wages may also be higher in non-MSA urbanized areas. There are cities, such as Bangor, Maine, and Missoula, Montana, that are too small to qualify for MSA designation but that may constitute an urban core for the surrounding area. Hospitals in these cities, however, are treated as if they were comparable to hospitals in less urbanized areas.

The problem of counties adjacent to MSAs, so-called "fringe counties," could be addressed by including these counties in the MSA they border or by developing a special wage index different from either the urban or the rural value. The problem of non-MSA urban centers would require a more sweeping redesign of the system, using a new measure of urban status or some measure of labor markets other than the MSA designation.

Fringe counties. Hospitals in counties adjacent to MSAs have complained that the current system of using MSA boundaries to define labor markets is arbitrary and does not reflect the extent to which their labor costs are affected by urban competition. In 1984, 1,336 rural hospitals, or 49.6 percent, were in counties adjacent to an MSA. Depending on the size of the counties within the MSA, some of these hospitals could be in counties bordering the MSA and still be a considerable distance from the urban center.[81] Still, wages in the MSA-fringe counties are somewhat higher than those in other non-MSA areas. A study by Abt Associates for ProPAC found that the wage differentials between hospitals in these counties and the other rural hospitals in their States averaged 1.8 percent nationally.[82] While this difference is not large, there may be some areas where the difference is much greater.

As with the basic urban/rural payment differential, the problem is that a single arbitrary dividing line has been used to measure differences that may really occur along a continuum. Wage levels may diminish in concentric circles, lower in suburbs than in the urban core of an MSA, lower still in the non-MSA counties adjacent to those suburbs, lowest in the more distant rural counties.[83] No matter which of these concentric circles is selected as the dividing line, the system may still create winners and losers, because some

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[81]Cromwell, Jerry, Ann Hendricks, and Gregory Pope. Report on Geographic (Urban-Rural) Refinements to PPS Payment Adjustment. Report to Health Care Financing Administration. Sept., 1986.

[82]Prospective Payment Assessment Commission. Technical Appendixes to the Report and Recommendations to the Secretary, U.S. Department of Health and Human Services. Washington, Apr. 1987, p. 91-94.

[83]ProPAC has consistently recommended that urban centers in MSAs be separated from outlying areas for the purpose of the wage index.

hospitals may resemble those across the boundary more than the peers with which they have been classed.

Under the current system, the winners are the suburban counties in urban areas and the most distant counties in rural areas. Each benefits by having its wages averaged in with the higher wages paid in the central city and in the MSA-fringe counties respectively. There are proposals to redraw the lines, so that the rural counties closest to MSAs would receive the MSA wage index. These proposals would create a new set of winners and losers. The urban wage index values would drop, because the lower wages in the fringe counties would be averaged in with the higher wages in the center city and suburbs. This would reward the fringe hospitals but further penalize the hospitals in the urban core. The index values for the counties still treated as rural would also drop, because their wage levels would no longer be averaged in with the higher wages paid in the MSA-fringe counties.[84] A HCFA report on this issue found that, in some States, rural hospitals in counties not adjacent to an MSA would suffer substantial payment cuts: the decrease in payment per case would be 14.6 percent in Florida, 10.9 percent in Colorado, and 25.4 percent in Massachusetts. The corresponding increases in payment to the MSA-fringe hospitals would be much smaller, because they have more employees and hence contribute more to the current wage index values than the hospitals in non-adjacent counties.[85]

Price shifts of this magnitude might result in a system that more accurately reflects real relative wages, although in some cases it might merely mean that hospitals inappropriately grouped with one class are now inappropriately grouped with another. In any event, the proposal could significantly increase the financial pressures on some small rural hospitals without providing a very large benefit to the hospitals in the fringe counties.

Congress has already conducted a small-scale experiment in redrawing the lines and attempting to protect the potential losers. A provision of OBRA 87 reclassified 26 non-MSA counties as urban on the basis of commuting patterns between these counties and the neighboring MSAs.[86] The Act provided that rural hospitals outside those counties were to suffer no aggregate loss in payments, placing the burden of the provision on urban hospitals. Those in the affected MSAs found that their wage indexes dropped because the new

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[84]There are a few instances in which this double reduction would not occur, because the fringe hospital pays higher wages than its urban peers or lower wages than its rural peers.

[85]U.S. Department of Health and Human Services. Secretary. Report to Congress: Studies of Urban-Rural and Related Geographical Adjustments in the Medicare Prospective Payment System. Dec., 1987. p. 4.7.

[86]These counties are known as "Lugar counties" after the original sponsor of the provision.

counties had been included in their areas. The Technical and Miscellaneous Revenue Act of 1988 (P.L. 100-647) provided that some of the reclassified fringe counties should be assigned their own wage index, leaving the previous urban and rural indexes unchanged. This solution is not inherently budget-neutral. The cost may have been small for the small number of counties reclassified. Reclassification of all 1,336 hospitals in fringe counties, however, could make this approach a costly one, unless it were balanced by a general reduction in PPS payments. Another problem is that it could result in the creation of wage index areas containing a single hospital; there would be no peer group to measure these hospitals against to insure that their wages were reasonable.

Non-MSA urban areas. As noted earlier, there are cities or urbanized areas of some size that do not meet the minimum criteria for MSA designation. The Abt Associates for ProPAC cited earlier found that the wage differentials between these areas and the other rural areas in their States averaged 8.5 percent in 1982, much more than the 1.8 percent differential between counties adjacent and not adjacent to an MSA. ProPAC has recommended that cities or urbanized areas of greater than 25,000 population receive a separate wage index from that of other non-MSA areas in their State.[87] As with separation of the fringe counties, this would either cause a sharp drop in the wage indexes of the other rural hospitals in the State or require a general readjustment of PPS rates.

Bureau of Economic Analysis (BEA) areas. Some people have proposed adoption of an entirely new labor market area classification as an alternative to minor modifications in the MSA-based system. The Bureau of Economic Analysis (BEA) has divided the United States into 183 economic areas, known as BEA areas. Like MSAs, BEAs have an economic center, to which outlying areas are connected by commuting patterns and other economic ties. Unlike the MSAs, BEAs cover the entire country; every county is within a BEA. Some BEAs have an existing MSA, or several MSAs, at their center. Others have as their core a smaller city or urbanized area. There may be several BEAs in a State, or one may cross State lines. The rural areas of BEAs could be used to define rural labor market areas, instead of using the current 48 areas defined by State boundaries.[88] The Abt study for ProPAC found that using BEAs would improve overall measurement of variation in wages within the rural areas of a State, in cases where one State has several rural labor markets or a single labor market crosses State lines. However,

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[87]Prospective Payment Assessment Commission, Technical Appendixes to the Report and Recommendations to the Secretary, 1987.

[88]New Jersey and the District of Columbia have no non-MSA areas. Rhode Island does, but there is only one hospital outside an MSA; this hospital is treated as being in the Providence MSA.

shifting to BEAs would not specifically assist the fringe counties or non-MSA cities and urbanized areas.[89]

DHHS has opposed any general modification in the definitions of labor market areas, partly on the grounds that the alternatives are too complex to administer, but also on the basis that none of the changes proposed would significantly affect the absolute numbers of winners and losers; they would merely make some winners losers and vice versa. The Secretary's 1987 report indicated that 5 percent of rural hospitals had a wage index 15 percent or more below their real relative wage levels, and 22 percent of hospitals had a wage index 15 percent or more above their real relative wage levels. DHHS's contractors found that these distributions would remain nearly constant if a BEA system or one distinguishing MSA-fringe counties were adopted.[90]

Other Wage Index Issues. In its current wage survey, HCFA is beginning to investigate two other factors that have been of concern to rural hospitals: occupational mix and the use of contract labor.

Occupational mix. Some hospitals, such as teaching facilities or those treating more seriously ill patients, may have proportionately more highly skilled, and highly paid, employees than others. To the extent that these hospitals are concentrated in urban areas, the nature of the employees they hire, rather than any general geographic difference in wage levels, may raise the wage index values for urban areas. However, the cost of using more highly skilled labor is also implicitly considered in other PPS adjustments, such as the additional payments for the indirect costs of medical education. The DRG weights themselves, based on relative costs for different types of cases, may also be higher for cases that require more skilled personnel. Some people say that certain facilities are, in effect, being paid twice for the mix of workers they employ: once in the higher urban wage index and again in the other price adjustments.

One solution to this problem is some form of adjustment to the wage indexes to reflect occupational mix. Instead of reflecting both relative wage levels and relative use of skill categories, the index could then reflect what a hospital's labor costs would be if its mix of employees were comparable to that of all hospitals. Differences in the occupational mix required to treat certain types of patients would then be reflected solely in the DRG weights.

HCFA will be attempting to collect information on occupational mix in its current wage survey. Even if it should prove feasible to develop an occupational mix adjustment on the basis of this information, such an

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[89]Prospective Payment Assessment Commission, Technical Appendixes to the Report and Recommendations to the Secretary, 1987.

[90]U.S. Department of Health and Human Services. Report to Congress. Studies of Urban-Rural and Related Geographical Adjustments. p. 4.9.

adjustment would be accompanied by an adjustment in the relative values of all the DRGs.[91] Some would have higher or lower weights than at present. Because there are overall differences in the types of cases treated in urban and rural hospitals, the net effect might be that total payments to rural hospitals would not be changed significantly.

Contract labor. A final concern about the wage index system is that index values are based solely on costs for personnel directly employed by hospitals. If a hospital purchases some services from outside contractors, the wages of those contractors' employees are not considered. Rural hospitals may be more likely to rely on contract workers for routine services than urban ones, because their patient volume is insufficient to support direct employment of personnel in certain occupations. As with occupational mix, the current HCFA survey will include information on contract workers. Whether this data will be usable, or whether it will make any difference in rural index values, is uncertain.

Non-labor Inputs

PPS includes no general adjustment for geographic variation in the price of non-labor inputs that hospitals must purchase, such as supplies or electricity. (Hospitals in Alaska and Hawaii do receive an adjustment that reflects the higher cost of living in those two States.) The price of non-labor inputs is one of the unmeasured possible sources of cost variation that were implicitly adjusted for when separate rates were established for different census regions and for urban and rural hospitals. Rural hospitals contend that they must pay the same prices as urban ones for supplies and other inputs. In fact, the costs may be greater, because of higher transportation cost or because a small hospital cannot obtain volume discounts from suppliers.[92]

In 1987, when the use of regional rates was originally scheduled to expire, the House approved budget reconciliation legislation (H.R. 3545) that would have provided for a non-labor price index. This index would not have involved any actual measurement of price variation, but would have been based on the wage index for each area. The bill limited the extent to which any area's overall PPS payments could be increased or decreased as a result of the new index. The index was a proxy, a temporary measure intended to be replaced by a real index of non-labor prices as soon as one could be developed.

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[91]Relative wage levels are factored out of each case's costs before the DRG weights are established.

[92]Some small rural hospitals have joined with others in group purchasing ventures to overcome this problem.

The House provision was not included in the conference agreement on OBRA 87 (P.L. 100-203). Instead, regions that stood to lose from the transition to national rates were allowed to continue receiving a blend of the regional and national rates through FY 1990. ProPAC was instructed to report by October 1989 on the appropriateness and feasibility of a geographic adjustment to the non-labor portion of the PPS rates.

A report already filed by HCFA contends that the data required for making such an adjustment do not exist. While there are some indexes of relative cost of living in different areas, HCFA argues that these indexes are too crude (and too heavily slanted towards housing costs) to serve as the basis for a PPS adjustment. The report does not make clear, however, why an index could not be developed through a survey of hospitals comparable to that used for the wage index.

There are in fact reasons why a non-labor price index would be harder to construct. Labor costs can be reduced to a single unit, an hour of labor, the price of which can be compared across hospitals. There is no comparable single unit for non-labor costs. Hospitals purchase an enormous variety of goods and services. It would clearly be inappropriate to tie overall reimbursement to the price of just one or two of these, bedsheets or syringes. A market basket of non-labor inputs could be developed, comparable to the overall hospital market basket currently used in deliberations about the annual update factor for PPS rates. This would assume that food accounts for a given percentage of each hospital's costs, pharmaceuticals a different percentage, computer services another. Each hospital's expenditures for each of these components would be fit into these standard categories and an overall index established. While the process of gathering and using the data would be complex and costly, it is not inherently unfeasible.

However, an index constructed in this way would suffer from a problem comparable to the occupational mix problem in the wage index. Hospitals treating different types of patients may use more or less of different categories of non-labor inputs. They would report higher or lower expenditures for these items regardless of actual relative prices. At the same time, the relative use of different items is also reflected in the DRG weights. Some hospitals would be compensated twice for the same expenditures. Again, this could be corrected for, but only with an accompanying shift in the DRG weights. As with an occupational mix adjustment, the effect of these shifts might be to leave overall rural revenues close to where they began.

Severity within DRGs and Outlier Protection

The weighting factor assigned to a DRG reflects the resources used in treating a typical case in that DRG, relative to the resources used in treating a typical Medicare patient. A particular case within a DRG may cost much more or less than the "typical" case represented by the weighting factor. Cost variation within a DRG may stem from differences in the severity of cases

treated, in the intensity of the treatment methods adopted, or in the duration of patients' stays in the hospital. There have been a variety of proposals to improve the DRG classification system, or replace it with another system, to reduce the amount of unmeasured variation in severity or costliness of cases. Although some of these improvements show promise, it may be some time before any are ready for implementation as part of a payment system.

Meanwhile, the basic assumption of PPS is that, even if there is cost variation within a DRG, the law of averages will dictate that each high-cost case within a DRG will be balanced by a low-cost one. The law of averages doesn't always work, especially with small numbers of cases; one may toss a coin ten times in a row and get heads each time. This means that hospitals treating a very few cases in a DRG over the course of the year may find that all of the cases were more costly than the average for the DRG, or less costly. In addition, the law of averages will not apply if the relative costliness of the cases a hospital attracts is not determined by chance. For example, teaching hospitals are thought to be treating more severely ill patients within each DRG; this factor has been considered in setting the additional payments for teaching costs.

While there is no evidence that small rural hospitals are, as a group, treating higher cost cases within each DRG, there may be particular hospitals that do have a pattern of accepting more severely ill patients. Complications or other aspects of severity may not always be predictable, and the most isolated hospitals may treat patients who would have been referred elsewhere if a referral center had been more accessible. The evidence that the oldest and frailest Medicare beneficiaries may be less likely to travel might also suggest that some rural hospitals could be routinely treating especially severe cases. Still, the greater problem appears to be the one of small numbers: some small hospitals treating small numbers of patients may suffer a random incidence of high-cost cases.

It must be emphasized that, for every loser among small hospitals, there may also be a winner. The problem of small numbers works both ways, and some hospitals may be treating unusually low-cost cases within DRGs during a year. In the next year, the winners and losers may trade places, while over longer time periods, both types of hospitals would be expected to approach the average. However, a hospital in poor financial condition may not have sufficient financial reserves to wait for its luck to turn. In addition, there is not an exact balance between high- and low-cost cases within each DRG. A few cases within a DRG may cost many times the average for the DRG, but no case costs zero. This means that, while there is a risk of great loss on an individual case, this risk may not be balanced by the chance for a windfall profit.[93]

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[93]For further discussion of this issue, see U.S. Library of Congress. Medicare's Prospective Payment System: An Analysis of the Financial Risk of Outlier Cases. CRS Report No. 87-877 EPW. Washington, 1987.

PPS attempts to reduce extreme risks by making additional payments for outliers, atypical cases which have either extremely long lengths of stay or extraordinarily high costs compared to most patients classified in the same DRG. However, there are concerns that the system may not be providing adequate protection for some small hospitals.

The law requires that total outlier payments to all hospitals represent no less than 5 percent and no more than 6 percent of the total estimated PPS payments for the fiscal year. Outlier payments are financed by an offsetting reduction in the Federal portion of the DRG rates, with separate set-aside factors for urban and rural hospitals.

In order to qualify as an outlier, a case must pass one of two tests. First, the length of stay may exceed a day threshold, which in FY 1989 is the lesser of 24 days or a specific day threshold set for each DRG.[94] For a case that meets this test, the hospital receives the standard DRG payment, plus a per diem payment for each day the patient remained after the threshold was passed. If a case does not qualify as an outlier on the basis of length of stay, it may still qualify for extra payment if costs for the case exceed a cost threshold, equal to the greater of $28,000 or a specific cost threshold for each DRG.[95] For a cost outlier, the hospital receives the standard DRG payment plus a fixed percentage of the amount by which costs for the case exceeded the threshold. In neither instance does the hospital make up its entire loss on the case. It is still at risk for the days or costs between those assumed in the DRG rate and the day or cost threshold.

Before FY 1989, about 85 percent of outlier payments were made for "day outliers," cases with very long hospital stays. The remaining 15 percent were for "cost outliers," cases with very high costs. In September 1988, however, the Secretary changed the outlier formula to give greater emphasis to cost outlier cases. This was done by raising the day thresholds and increasing the fixed payment percentage for costs beyond the cost threshold. Cost outliers are now expected to account for 60 percent of all outlier payments.

Outlier payments are financed by an across the board reduction in payment rates for all cases in all hospitals. In effect, hospitals are paying an insurance premium for protection against the financial risk of a few very costly cases. During the first years of PPS, all hospitals paid the same premium: they received the same percentage reduction in DRG payment rates to finance the outlier pool. Because proportionately fewer cases in rural hospitals met the established day and cost thresholds for outlier payments, the rural hospitals were, as a group, getting less back in outlier payments than

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[94]The specific threshold for each DRG is three times the standard deviation in the length of stay for that DRG.

[95]The cost threshold is equal to two times the standard deviation in the cost for cases in the DRG.

they were paying in premiums. This policy, which amounted to a transfer of funds from rural to urban hospitals, was corrected by OBRA 86 (P.L. 99-509). Beginning in FY 1987, separate outlier pools were established for urban and rural hospitals. Now rural hospitals pay a lower "premium," suffer a smaller across the board reduction in payment rates, 2.2 percent in FY 1989 as compared to 5.6 percent for urban hospitals. However, rural hospitals also receive proportionately fewer outlier payments than urban ones.

Because overall rural costs are lower than urban ones, fewer cases in rural hospitals reach the cost outlier threshold, which is uniform for urban and rural hospitals. The changes for FY 1989, emphasizing cost outliers at the expense of day outliers, may make it even less likely that cases in rural hospitals will reach the outlier thresholds. One type of case that may be more common in rural hospitals is a patient who stays in the hospital because a nursing home bed cannot be found. The increase in the day thresholds may mean that fewer of these cases will qualify for extra payment.

Again, the "premium" rural hospitals pay for outlier protection has been reduced to reflect the lower payments they receive from this system. It would be possible to establish different outlier thresholds for rural hospitals, so that more cases would qualify as outliers. This change would be accompanied by an increase in the "premium"; the basic PPS payment rates would be reduced to cover the costs of the additional protection. This trade-off is comparable to the one involved in any purchase of insurance against unforeseeable losses. Because there is no overall effect on Federal expenditures, the assessment of how much coverage rural hospitals want and what premium they are willing to pay for this coverage could conceivably be left to the hospitals themselves. They might opt for maximum protection, very low outlier thresholds in return for sharply reduced basic PPS payments, or they might prefer the thresholds and PPS rates currently in place.[96] (Some other Federal policies, such as those of some agricultural programs, are already subject to referenda by the affected parties.)

Even a separate set of rural outlier thresholds might not help the smallest hospitals, because the distribution of outlier payments within rural areas is uneven. ProPAC projects that outlier payments will account for 1.3 percent of FY 1989 PPS reimbursement to rural hospitals with fewer than 50 beds,

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[96]It is not immediately clear that the insurance function of protecting hospitals from outlier risks could not be performed by the private market. Hospitals could purchase outlier policies just as they purchase liability coverage, or they could form a network and pool the risks on their own. One potential problem is that the highest-risk hospitals, presumably the very smallest, might be excluded, just as insurance underwriting practices may exclude certain individuals or companies from other types of coverage.

compared to 4.7 percent for rural hospitals with 170 beds or more.[97] The system protects them against cases with extremely high losses, those with costs $10,000 or more above the basic payment. However, small rural hospitals tend to have more cases with minor losses, costs between 100 and 150 percent of the basic payment, than other hospitals do. The outlier system provides minimal protection for a hospital suffering consistent losses in this range.[98] The system was designed only to protect against extreme risks and may not protect against steady, uncontrollable losses. Alternatives for doing so are considered at the end of this chapter.

One other potential problem with the current outlier system is in the way payment amounts for outlier cases are determined. The later days of a hospital stay tend to be less costly than the first part of the stay; the recuperating patient is receiving fewer tests and medical treatments. Outlier payments are reduced to reflect this difference in marginal cost per day. However, the cost difference for early and later days may not be as great for small rural hospitals, both because they may provide less intensive services early on and because their low volume may make the later days relatively costly. One possible solution would be a hospital-specific marginal cost adjustment.

Finally, it should be noted that there have been proposals for an alternative to the outlier system that would change the way of paying for certain DRGs, at least until more precise severity measures are developed. The chances that a case will cost much more or less than the DRG average on which the weight is based are not the same for all DRGs. In some DRGs, the cases and the types of treatment required are relatively uniform. Other DRGs group together cases that require very different types of treatment and

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[97]U.S. Congress. House. Committee on Ways and Means. Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means. Washington, 1988. WMCP 101-4. p. 326.

[98]See Prospective Payment Assessment Commission. Report and Recommendations to the Secretary, U.S. Department of Health and Human Services. Washington, Mar. 1989., p. 77-83.

display much greater variation in cost.[99] One option for dealing with these variations is to declare that some DRGs are uncertain measures of cost and to pay for each case in those DRGs on the basis of the actual costs incurred by a hospital in treating that case, or on the basis of some blend of actual costs and an overall average price for the DRG. (The latter approach would retain some incentive for hospitals to strive to treat these cases efficiently.) These proposals have received little study and cannot be analyzed thoroughly in this report. Cost finding for individual cases could be cumbersome and subject to manipulation; however, individual case costs are already determined for outlier cases.[100]

PPS Exceptions for Certain Rural Hospitals

In the third year of PPS, 10 percent of rural hospitals with fewer than 50 beds had Medicare costs averaging 45 percent more than their Medicare revenues. Hospital-level data for later years are not yet available. However, aggregate PPS margins have been dropping, and it is possible that even more small hospitals are now sustaining losses in this range. Negative margins of this magnitude mean that a hospital's costs for Medicare patients would exceed its PPS revenues even if it were paid the same amount that an average urban facility receives for patients with the same diagnoses. Elimination of all the payment factors that differentiate among hospitals according to location would leave at least some hospitals still suffering Medicare losses.

PPS included from the outset special provisions intended to protect sole community hospitals (SCHs), isolated facilities that were an essential source of care for their communities. An SCH is paid under special rules that consider the hospital's own historic costs. These rules were supposed to ensure that the competitive pressures of PPS would not threaten facilities that, while financially vulnerable, were vital to maintenance of access to care.

Some people say that the SCH system is not serving its purpose of preserving the most essential facilities. Some of the hospitals receiving SCH protection may not be entitled to it under current rules, while other vital facilities may not qualify. In addition, there are concerns that the special

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[99]The degree of variation is reflected in the portion of total PPS payments for a given DRG that consists of outlier payments. For the bottom 15.1 percent of the DRGs, outlier payments make up less than 1 percent of total PPS payment. For the top 10.4 percent of DRGs, outlier payments make up 10 percent or more of total PPS payments. Prospective Payment Assessment Commission. Report and Recommendations to the Secretary. 1989.

[100]For each hospital, an overall ratio of actual costs to charges is established. This ratio is then applied to the billed charges for the case in question, although the real ratio of costs to charges is likely to differ according to the mix of services used.

payment rules are not providing sufficient financial protection. As was shown earlier, by the third year of PPS the SCHs were doing only slightly better than other rural hospitals; the bottom 10 percent were doing worse, with PPS margins averaging minus 31 percent. However, the top 10 percent of SCHs had positive PPS margins averaging 21 percent; they did as well as the top 10 percent of urban hospitals. These figures suggest that the current program may not be assisting the facilities with the greatest need.

The next section examines the current rules for designating a facility as an SCH, along with some options for changes in these criteria. This is followed by a discussion of SCH payment policy and why it may not be working for some of the participating facilities. The final section of this chapter looks at some possibilities for more fundamental changes in the definition of the types of hospitals entitled to financial protection and in the type of protection that is provided to them.

Current and Alternative Criteria[101]

A hospital may qualify for SCH status by meeting any one of the following three criteria, set forth in 42 CFR 412.92:

- It is more than 50 miles from a comparable hospital.
- It is between 25 and 50 miles from a comparable hospital and:
  - (a) It provides 75 percent of the inpatient care for all persons in its service area (or just for Medicare beneficiaries), or
  - (b) It has fewer than 50 beds and would meet the 75 percent criterion, except that some patients had to go elsewhere to obtain specialized care.
- It is over 15 miles from a comparable hospital and other hospitals are inaccessible for at least one month a year because of weather conditions (e.g., snowfall) or topography (e.g., the hospital is on an island).

The designation of certain hospitals as sole community providers antedates PPS. SCHs were exempted from previous Medicare cost control initiatives, such as the section 223 rate of increase limits established in 1972 and the more stringent limits imposed by The Tax Equity and Fiscal

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[101]Much of the discussion in this section is based on SysteMetrics/McGraw-Hill. Small Isolated Rural Hospitals: Alternative Criteria for Identification in Comparison with Current Sole Community Hospitals. Prepared for Prospective Payment Assessment Commission. Washington, June 1988. Technical Report No. E-87-11.

Responsibility Act of 1982 (TEFRA, P.L. 97-248). Before PPS, there were no formal rules for the designation. The authority to grant SCH status was delegated to HCFA regional offices on the theory that they were best equipped to assess local conditions. The facilities designated before PPS may retain their SCH status even if they do not meet current criteria. As of July 1987, 259 of the 361 SCHs had received their designation before PPS implementation.

A 1988 study conducted for ProPAC by Systemetrics found that 211 out of 2,710 rural hospitals, or 11.4 percent, met the criteria for SCH designation on the basis of distance, transportation problems, or market share. More than half of these were not designated as SCHs during the period studied, 1984-85. Of the 308 rural hospitals with SCH status, only 92 were actually eligible under current criteria; the rest had been grandfathered in. Another 119 rural hospitals were eligible but were not designated as SCHs. Many of these may have chosen not to apply for SCH status because they expected to fare better under regular PPS payment rules than under the special payment rules for SCHs.

SysteMetrics examined the effects of four major alternatives to the current criteria for designating SCH hospitals, as follows:

- Using travel time instead of mileage to measure isolation from other hospitals. A 40-minute minimum would add 197 hospitals that could not meet the 50-mile distance requirement, bringing the total eligible for designation to 408.

- Designating any rural hospital that is the only short-term general hospital in its county, or is 25 miles or 40 minutes from another hospital, an SCH. This 1986 AHA proposal would have made 1,224 rural hospitals, or 45 percent, SCHs.

- Conferring SCH status on "frontier" hospitals, those in counties with 10 or fewer persons per square mile.[102] Only 16 hospitals qualified under this criterion.

- Using as a criterion 30 minutes travel time to the nearest hospital plus extensive service to a designated medically underserved area (MUA). MUAs were designated by the Health Resources and Services Administration on the basis of poverty rate, percentage of the population over 65, infant mortality rate, and availability of primary care physicians. This criterion, intended to measure mobility of the population and other social needs for a hospital's services, was tested only for four States. It did seem possible to sort out some facilities

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[102]The more usual criterion is six persons per square mile. However, only four hospitals in the Nation were in counties with this population density.

serving especially needy populations. The effect of using this criterion on a national basis is not known.

Any of these criteria, like those currently in use, are necessarily arbitrary; they are attempts to quantify the concept of access to care. There is no clear reason, for example, to prefer a 30-minute or 40-minute travel time standard to a 20-minute one. Even to assume that people can travel 20 minutes to a hospital may mean that the least mobile among the population will suffer some barriers to access and that there will be some delays in furnishing emergency care. In the context of PPS, adoption of any such standard implies a trade-off between the goal of efficiency and the goal of maintaining access. It may be possible to improve the current criteria, base them more firmly on real evidence about the potential effect of a given standard on access and outcomes. Use of any standard, however, will still involve some balancing between limited resources and an ideal of unlimited access to care. The issues involved in this balancing are discussed further below.

Payment Rules

An SCH continues to receive payment under rules similar to those that applied to all hospitals for cost reporting periods beginning in FY 1984, the first year of the PPS transition. In that year, the basic payment rate for a hospital consisted of 75 percent of that hospital's own cost per discharge plus 25 percent of the applicable regional rate. For other hospitals, the PPS transition has meant a gradual reduction in the proportion of the rate based on hospital-specific costs and a gradual shift from regional to national rates. As noted earlier, most hospitals' payments are now based on uniform national rates, with no hospital-specific component. Payments to an SCH continue to be based chiefly on the hospital's own historic cost experience.

Like other components of PPS rates, the hospital-specific portion of the rates for SCHs is based on data from 1981, updated to reflect subsequent inflation. The annual update factors, as was noted earlier, have been below the rate of inflation. However, if occupancy at some SCHs has declined at the same rate as that of other small rural hospitals, their cost per case may have risen at a rate well above inflation. For this reason, some people have proposed that the hospital-specific component of the SCH rates should be updated to reflect more recent cost information. This process would presumably need to be repeated periodically, in order to ensure that SCH payments kept pace with costs.

The original justification for the SCH payment system was that an isolated facility would incur added costs to maintain rarely used standby and emergency capacities and could not be expected to reduce these costs in the name of efficiency. That is, if an SCH in 1981 had higher costs than other rural hospitals, it would not be expected, as other higher-cost hospitals were, to bring those costs down to the overall rural average. However, the system

did not guarantee that an SCH would be fully protected if its relative costs increased.

Some protection has in fact been provided, in the form of a "volume adjustment" that may be paid to an SCH whose inpatient caseload drops more than 5 percent between one year and the next for circumstances beyond the hospital's control. If this occurs, Medicare will increase reimbursement to an amount sufficient to cover the hospital's full costs for maintaining core services.[103] A hospital that is qualified for designation as an SCH, but that has not sought that designation because it prefers ordinary PPS payment rates, may still qualify for the volume adjustment. However, the volume adjustment is only for losses in volume attributable to some unusual circumstance, such as an actual interruption of services due to a disaster or inability to recruit essential staff. It is not available to a hospital that is simply suffering a steady decline in admissions. The volume adjustment provisions expire October 1, 1990.

In summary, the current rules for SCHs assume that some hospitals are so essential as to require special treatment, but also assume that it is appropriate to subject even these hospitals to the financial incentives of a prospective payment system. An SCH is expected to function as efficiently as possible given its special circumstances. The proposal to update the base for SCH hospital-specific rates would bring SCH rates closer to current costs, but would retain some incentives, to the extent that 25 percent of SCH payments would continue to be based on PPS rates. However, there are also proposals in the 101st Congress to allow SCHs or small rural hospitals generally to opt for reasonable cost reimbursement, or to provide such reimbursement for hospitals that are especially dependent on Medicare revenues.

Some of these proposals are intended as interim solutions, in order to allow these facilities to continue in operation pending the adoption of some revisions in PPS, such as elimination of the urban/rural differential in the basic rates or development of more precise measures of severity of illness. Other proposals would permanently exclude some facilities from PPS, on the grounds that the system is inappropriate for certain classes of rural hospitals and that they cannot be expected to function under a fixed price system.

While the SCH criteria are explicitly related to access to care, this is not necessarily true of the other two possible criteria, size or Medicare-dependence. For example, large hospitals may be relatively isolated, while some smaller ones are close to other hospitals and possibly less essential.

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[103]Section 1886(d)(5)(C)(ii) of the Social Security Act, which provides for the volume adjustment, does not make clear whether Medicare is to cover only its share of these costs, as determined by its share of total patient services, or the entire costs necessary to keep the hospital operating. Medicare regulations, however, have limited payment to Medicare's share of the costs. (42 CFR 412.92(e))

Dependence on Medicare, as was noted earlier, does not appear to be related to isolation; hospitals eligible under the current SCH criteria tend to be slightly less dependent on Medicare revenues than other rural hospitals are. The alternative criteria, then, focus less on access than on characteristics of hospitals thought to be uniquely vulnerable to large losses under PPS.

The proposals for temporary exemptions imply that PPS is in need of redesign but that the basic concept of using fixed-price reimbursement to encourage efficiency remains applicable even to the exempt facilities. This position would assume that PPS could eventually be refined to the point at which it accurately rewarded or penalized facilities solely on the basis of efficiency, but that it does not do so at this time. Unless the exemptions were later renewed or made permanent, some of the hospitals benefiting from them could conceivably be permitted to fail, on the grounds that they were genuinely inefficient.

Proposals for permanent exemptions imply either that efficiency cannot be measured accurately in the foreseeable future or that the very goal of efficiency is ill-defined and potentially inconsistent with other health policy objectives. This fundamental debate is the subject of the last chapter of this report.

CHAPTER 5. BALANCING EFFICIENCY AND ACCESS TO CARE

The current debate over the future of rural hospitals is one aspect of a broader, long-standing debate over how to reconcile the competing goals of efficiency and access to care. America's approach to hospital supply in the postwar era, and to health policy in general, may be thought of as having passed through three phases.

The first was the period of expansion, roughly 1946 to 1974. In these years, the goal of policy was to expand and redistribute the Nation's health service capacity, so that all citizens would have access to modern health care. The Hill-Burton program, support for training of health professionals, and other initiatives, expanded the availability of health resources. As has been seen, the effort to provide hospital facilities for most Americans was largely successful, although programs to redistribute the supply of physicians and other health resources had less impact.

The physical expansion was accompanied by improved financial access to care, beginning with the rapid postwar growth in private health insurance and culminating in the 1965 enactment of Medicare and Medicaid. By the early 1970s, however, it was clear that the improvements in physical and financial access to care had brought with them rapid and uncontrolled growth in health care expenditures. Even those who favored further expansions, such as a national health insurance plan, acknowledged the need to control costs.

Cost containment has been a central theme in health policy ever since. However, different approaches have been dominant in different periods. The period of health regulation began in 1974 and continued until the early 1980s. Its centerpiece was health planning, the rational allocation and control of health care resources. Operating on the theory that the use of health services was driven by excess physical capacity, planners aimed to direct new resources where they were most needed and eliminate surpluses where they existed. At the same time, there were fledgling efforts to regulate health care prices and to monitor the use of health services.

None of these efforts appeared to slow the growth in health care costs. Some people say that health regulation failed, others that it was never really tried. Politically, it may have been easier to build a hospital in the 1950s than to close it in the 1970s. More direct control of medical utilization was hampered by the lack of an objective base of knowledge about the efficacy of different medical procedures. In any event, the 1980s brought with them a new approach.

The period of competition may be thought of as beginning with the Reagan Administration, although competition had its proponents (such as advocates of health maintenance organizations) throughout the 1970s. The central place of competition in current health policy was established by the adoption of Medicare's prospective payment system in 1983. Providers of

health care, driven by financial incentives, would find the most efficient ways of providing necessary services. Less efficient providers would close. Health resources, like other goods, would be allocated by a free market.

Competition has, from the outset, had its critics. Opponents of Medicare's PPS argued that it would give hospitals an incentive to deny necessary services or to discharge patients "quicker and sicker." Others are concerned that the pressure on hospitals to consider their bottom line may have led to a reduction in the amount of free care they furnish, limiting access for the uninsured. The debate over rural hospitals is part of this broader debate over competition, the extent to which concepts of market efficiency will dictate the allocation of health care resources.

Federal Policy for Rural Hospitals

In strictly business terms, small rural hospitals are inherently inefficient, like corner grocery stores or neighborhood movie theatres. Americans have grown accustomed to traveling ever greater distances to centralized, more economical facilities, such as supermarkets and multiscreen cinemas. Why shouldn't the same trend apply to hospital services? The obvious answer is that, while seeing the latest movie is never a matter of life and death, getting to the hospital can be. For this reason, even proponents of greater efficiency in the health care system accept the view that the pursuit of this goal must sometimes be tempered by a concern for access to care. There may be situations in which ideal efficiency, however that is defined, cannot be achieved.

The effort to define a Federal policy for rural hospitals may be thought of as a search for a position somewhere between two extremes. The first is the pure market view: a hospital is a business enterprise. Any hospital that cannot sustain itself in the current environment has no economic reason to exist and should close. The opposite extreme is the view that all hospitals are equally essential, and that economic considerations should play no part in the policy discussion.

There are a number of potential positions between these two extremes.

- Efficiency has been defined incorrectly, especially in the development of PPS. Once efficiency is redefined, it will be seen that the facilities most essential for access in rural areas are in fact operating efficiently and are entitled to payment of their full costs.

- Efficiency has been defined correctly, but some rural facilities cannot ever be expected to achieve it. They must therefore be exempted from any market pressure, while other facilities will be left to operate in an environment of unrestrained competition.

- The current health system (urban or rural) is not as efficient as it could be. Federal policy should strive to improve both efficiency and access.

While these positions have been phrased as if they were mutually exclusive, they may all be partially correct. Measures of efficiency may be inadequate, with the result that some well-managed hospitals are penalized for problems that are beyond their control. Other hospitals may be somewhat inefficient, but are so vital to their communities that their inefficiency must be overlooked, or at least not penalized as harshly as it would be in a less essential facility. Finally, there may be ways of promoting greater efficiency that go beyond the simple rewards and penalties implicit in Medicare's PPS.

The next section examines how efficiency is defined under Medicare's PPS and explores some ways of modifying that definition. The final section of this chapter looks at ways in which efficiency and access might be reconciled, by changing the way health services are delivered in isolated rural areas.

Defining Efficiency under PPS

PPS replaced a system under which, within limits, Medicare paid whatever costs hospitals incurred in providing services to Medicare beneficiaries.[104] This system gave hospitals no incentive to manage patients effectively or provide services efficiently. PPS was intended to change hospitals' incentives by establishing a "fair" price for inpatient services. If there had existed a fully competitive market for inpatient services, the fair price would have been apparent: it would have been whatever other purchasers in that market were paying. But there was no single national market: different facilities, operating in different economic environments, were furnishing different services to patients with different needs, and they were all charging different prices.

The strategy adopted by PPS was to group hospitals into classes according to a number of different dimensions, and then to assume that the average cost for hospitals in the class represented a fair price. Each hospital was classified more than once. The DRG categories grouped hospitals according to the kinds of patients they were treating. The wage index system grouped them according to the labor markets in which they operated. The urban/rural difference in the basic payment amounts grouped them by

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[104]In 1982, the year before the adoption of PPS, the Tax Equity and Fiscal Responsibility Act (P.L. 97-248) imposed strict limits on the growth in hospitals' costs per Medicare case. A hospital whose costs exceeded the TEFRA targets could suffer a loss, but a hospital that furnished care for less than the target amounts would receive only its actual costs. A hospital could lose, but not profit, under this system. Hospitals therefore initially supported the adoption of PPS, under which either profit or loss was possible.

geography. PPS repeatedly compares hospitals with other hospitals deemed to be their peers. The single price that Medicare pays for a given type of patient at a given type of facility in a given location is the composite result of all these comparisons. The various PPS adjustments, in effect, establish the class of "rural non-teaching hospitals in a given State treating a case of simple pneumonia" and pays a rate that is supposed to be fair for that group of hospitals.

As was noted earlier, there is a general debate over the adequacy of PPS price levels for all classes of hospitals. Most of the other disputes over specific features of PPS may be thought of as arguments that a given hospital has been incorrectly grouped with hospitals that are not really its peers. This argument may be raised on an individual basis, as when an MSA-adjacent hospital contends that it really belongs with its urban competitors and not with the rural hospitals. Or it may be raised as a general criticism of the categories, as when hospitals claim that the DRGs group together patients who are really very different. Rural hospitals would contend that one entire category--urban versus rural--is irrelevant, that urban and rural hospitals constitute one peer group and should be paid a price that is the average for the whole group. Smaller rural hospitals might adopt the reverse position and say that they are inappropriately classed with larger rural hospitals that benefit from the economies of scale.

Even if all these arguments are eventually resolved, PPS will continue to be a system of categories. It depends on its categories to define a fair (or "efficient") price. Unless it can compare a hospital to a peer group, it cannot assess the reasonableness of the costs the hospital incurs. There may be many valid reasons for a given hospitals' costs to differ from those of other hospitals, and it may be possible to establish additional classes or subclasses of hospitals that can provide more appropriate comparisons.[105] However, so long as the system relies on grouping hospitals together into broad categories, there may remain significant cost differences among the hospitals that have been grouped together.

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[105]For example, some cost differences may be related to environmental factors. A hospital's occupancy rate might be declining because the area it serves is economically depressed, is losing population, or has a high rate of uninsurance. These external factors have been omitted from PPS. Hospitals are classified according to characteristics of the hospitals themselves, even though the hospital's environment might have considerable influence on its financial condition. It is theoretically possible to include environmental factors in the PPS rates themselves. The class of "hospitals in areas with high unemployment" is not inherently less reasonable than the class of "hospitals with medical residency programs." Much further research would be required to determine which external conditions might actually help to determine hospital costs and could be appropriately incorporated into PPS rates for all hospitals.

PPS assumes that any difference in cost among hospitals in a peer group reflects differences in efficiency. If the groups are appropriately defined (or defined as precisely as possible without making the system too cumbersome to administer), the assumption is that a hospital that cannot provide services at the same cost as others in its group is operating inefficiently. It needs to modify its operations to bring its costs down to the group average, or close.

The only current exception to this principle is the treatment of sole community hospitals. In setting SCH prices chiefly on the basis of an individual hospital's historic costs, the system acknowledged that the average costs for the peer group into which an SCH falls might not constitute a fair price. Costs for an SCH might differ from the average, not because of inefficiency, but because it had to maintain services and capacities that were rarely used but essential to its community. However, SCHs were still required to limit the growth in their expenditures. An SCH that failed to do so could still fail. That is, efficiency was retained as a value even after the determination was made that a given hospital was especially vital.

As was suggested in the last chapter, there are questions about how to go about determining that a particular hospital is essential. The current SCH criteria might warrant modification, or we might adopt much less restrictive criteria, such as the AHA "sole county hospital" proposal that would provide protection to nearly half of all rural hospitals. Further research might be needed to establish reasonable access goals, such as standards for acceptable travel time, although the question is finally a subjective one that may be resoluble only through the political process.[106] Still, even if agreement can be reached on what sorts of facilities require special treatment, there will remain the issue of whether to discard efficiency altogether as a goal for these hospitals.

To conclude that some SCHs (or small hospitals, or sole county hospitals) can incur higher costs for reasons other than inefficiency is not the same as to conclude that there is no such thing as an inefficient SCH. A hospital's higher costs might be due in part to circumstances beyond its control and in part to inefficiency or mismanagement. PPS makes no effort to separate these factors; it assumes that inefficiency is the sole explanation for higher costs. A full-cost reimbursement system adopts the reverse position, that higher costs are unavoidable.

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[106]In the 1970s, the era of health planning, policy makers looked for ways to decide which facilities were dispensable and should be shut down; now the problem is to decide which inefficient facilities are indispensable and must be kept open. This is simply the inverse of the previous question. It was at least partly because of the difficulties of reaching agreement on questions of this kind that emphasis shifted to reliance on market forces to make these decisions.

Other payers, such as some State Medicaid programs, have adopted systems that place hospitals at risk for individual patients, as PPS does, but that limit the aggregate loss the hospital can suffer because of unanticipated changes in costs or revenues.[107] Some private insurance plans, such as health maintenance organizations (HMOs), may use "risk corridors" in paying their subcontracting medical care providers. The overall profit or loss these providers can experience is limited to a fixed percentage of their revenues. The insurer is liable for aggregate costs above the loss limit and shares any savings achieved by the provider beyond the profit limit.[108]

These approaches stand midway between the current PPS system and full cost reimbursement. They limit a provider's risk while maintaining at least some incentive for efficiency. However, they still do not distinguish between cost increases that a provider could have controlled and those it could not. The provider could still be rewarded or penalized for reasons having nothing to do with efficiency. As was suggested in Chapter 4, in the discussion of the urban/rural difference in the basic PPS payment rates, there is still much research to be done before we will fully understand all the sources of differences in hospitals' costs, if we ever do. Until then, it may not be possible to separate out the "efficiency" component in a system based on average costs for heterogeneous groups of hospitals.

Strengthening the Rural Health System

The discussion to this point has assumed that the only policy choices are to maintain the rural health system exactly as it is or to allow components of that system to deteriorate or close, potentially threatening access to essential care. There may be instances, such as the case of hospitals serving very isolated communities, in which these really are the only choices. In other parts of rural America, there may be other options, ways of maintaining and improving access to services of high quality by changing the way those services are delivered in rural areas. A full examination of how the rural health system operates or how it might be modified is beyond the scope of this report. However, it may be appropriate to conclude with a brief examination of two major approaches: strengthening the ability of facilities to compete in the new, more competitive health care marketplace, and finding

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[107]See U.S. Library of Congress. Congressional Research Service. Medicaid Source Book: Background Data and Analysis. Report prepared for House Committee on Energy and Commerce. Washington, 1988. House Energy and Commerce Committee Print 100-AA. p. 127-8.

[108]For example, a target overall expenditure level is set for the provider, and the provider might be at risk for costs between 100 and 105 percent of the target amount. A provider whose costs were between 95 and 100 percent of the target expenditure level might be permitted to retain the savings; further savings would be shared with the insurer.

new ways of maintaining essential care in markets that may be unable to support a traditional, full-service hospital.

Changing Service Delivery

As was discussed in Chapter 3, while environmental factors and the policies of third-party payers have played a role in the financial problems of small rural hospitals, many may also have faced a steady loss of business to larger rural or urban hospitals. One reason may be that small hospitals cannot provide, or provide economically, the broad range of services that are available in facilities serving a larger population. There are a number of ways of limiting or channeling this outward flow of patients. In addition, some rural hospitals may be able to diversify, offer a range of services that is needed in its community and that it can provide as efficiently as a more centralized facility could.[109]

One way of controlling the outward flow of patients is to formalize the informal referral patterns that already exist. When patients are sent to distant facilities for special services, or travel on their own, they may form a permanent tie to the referral facility, using it even for more routine care. Rural hospitals can instead develop "refer-to, refer-back" arrangements through active affiliations with larger hospitals. Patients referred for specialized services are referred back for follow-up care, and the local hospital retains its status as the primary care source for the community.

A second approach is to develop or maintain specialized services within rural areas themselves, by combining multiple rural hospitals into a coordinated regional service network. Instead of each facility attempting to maintain on its own a spectrum of services that its community may not be able to support, each facility specializes in some types of elective services, serving as a central source for the entire region.[110] Hospitals may then save

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[109]For a more detailed review of these options, as well as some hospital survival responses less directly related to health care, see American Hospital Association. Environmental Assessment for Rural Hospitals -- 1988. Chicago. 1987. p. 19-26.

[110]Specialization may also help to overcome one concern that has been expressed about the quality of care in some rural hospitals, that certain services are too infrequently used for the hospital to become proficient in furnishing them. Several studies have found that there is a connection between outcomes, such as mortality rates, and the frequency with which certain surgical or other procedures are provided by a hospital. There is some disagreement as to whether outcome differences reflect the relative experience of hospitals themselves or the relative proficiency of the physicians who practice in them. For a review of this issue, see Moscovice, Ira S. Rural Hospitals: A Literature Synthesis and Health Services Research Agenda.

duplicative expenditures for costly diagnostic or other equipment and at the same time draw on a larger population for the services they operate. A well-utilized specialty component may then help subsidize essential services that are not readily centralized, such as obstetrical and emergency care.

Many small hospitals have gone further, becoming corporate affiliates or subsidiaries of multihospital systems, whether non-profit or investor-owned. This approach not only allows the centralization of some administrative and other costs, but may also give individual hospitals greater access to capital or temporary support. AHA reports that 902 rural hospitals, or more than a third, were in multihospital systems as of 1985, up from 710 in 1982.[111] Some of these hospitals maintained independent governance but were leased or contract-managed by an outside system; the rest were owned outright. Contract management by a multihospital system has become more common than direct ownership in recent years; in 1983, 46 percent of system affiliates were contract-managed.[112] Despite the increasing prevalence of these arrangements, one recent study concluded that system affiliation may do little to help small hospitals in financial distress.[113]

Finally, individual hospitals can diversify, offering new services as an adjunct to inpatient hospital care. They may provide home health or personal care services; within the facility they may offer skilled nursing care or adult day care. In areas with a shortage of nursing home beds, they may convert some inpatient beds to "swing beds." Services to patients in swing beds are eligible for Medicare and Medicaid reimbursement as either nursing home or hospital services, depending on the level of care required by a patient on a given day. This option not only makes use of otherwise underutilized facilities, but may also reduce hospitals' losses when patients no longer requiring acute hospital must remain because of problems finding a nursing home placement.

Hospitals may also strengthen their outpatient delivery capacity. Outpatient services not only serve as a source of revenue in themselves, but also are a feeder for inpatient care. If rural hospitals can offer specialty services on an outpatient basis, for example by contracting with visiting

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Health Services Research 23:6 (February 1989), p. 891-930.

[111]American Hospital Association. Environmental Assessment for Rural Hospitals.

[112]Lewis, Bonnie L., and F. Dale Parent. Acquisition of Small Rural Hospitals by Multihospital Systems. Journal of Rural Health, v. 2, n. 2, July 1986, p. 55-65.

[113]Berry, David E., Thomas Tucker, and John Seavey. Efficacy of System Management or Ownership as Options for Distressed Small Rural Hospitals. Journal of Rural Health, v.3, n. 2, July 1987, p. 61-75.

urban specialists, they may be able to retain inpatients who would otherwise have travelled to the city for care.

All of these approaches have already been tried by many rural hospitals themselves, with varying degrees of success. Federal assistance for such efforts has already been made available on a small scale through the program of rural health care transition grants authorized by the Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203). These grants are available to small rural hospitals to assist them in developing new services or modifying existing ones to deal with changes in their environment, such as declining demand for inpatient care or staffing difficulties. The grants may be used for such purposes as developing health systems with other providers, diversifying services, recruiting physicians, or improving management systems. Grants are limited to $50,000 a year for two years. HCFA expects to fund 80 to 90 proposals from an FY 1989 appropriation of $9 million. Authorization for the program ends after FY 1990. There are proposals to extend it and to increase the maximum amount of individual grants.

One limitation of the rural health care transition grant program is that no more than one-third of a grant may be used for capital expenditures. As Chapter 3 indicated, many small hospitals have difficulty obtaining funds for the large investments that may be required to add new services, such as stronger outpatient departments. One possibility for expansion, then, might be to provide limited matching grants or loan guarantees for capital expenditures.

Alternatives to Hospitals

Finally, there may be areas in which it more feasible to maintain access to essential services through some means other than operating a full-service hospital. One of the sources of financial pressure for very small hospitals is the need to comply with certification standards that require staffing levels and other expenditures that cannot be supported by current patient loads. Because Medicare and Medicaid reimbursement are dependent on certification, a facility may be placed in an all-or-nothing situation: it either meets the definition of a full-service hospital or it is ineligible for payment. As was suggested in Chapter 3, it may be possible to develop new kinds of inpatient facilities (or new categories of licensure and certification for existing facilities) that can provide certain types of care, especially the most urgent, but do not carry on all the functions of a general hospital.

The prototype for these proposals is Montana's program to develop a class of acute care providers called "medical assistance facilities" (MAFs). An MAF is licensed to provide inpatient care while a patient is awaiting transfer to another hospital, or for stays lasting 4 days or less. Patients may be admitted by a physician assistant or nurse, instead of a physician, and the MAF need only have a registered nurse on call, instead of actually present at the facility 24 hours a day. Thus the MAF provides a continuing access point

to the acute care system, although it does not meet the staffing levels or other standards that would qualify it as a hospital.[114] HCFA has provided a one-year grant to the Montana Hospital Association for further planning. It will then decide whether to conduct a full-scale demonstration project to test the feasibility of Medicare reimbursement for MAF services.

Eligibility for the Montana program is limited to "frontier" facilities that are at least 35 miles from another hospital and that serve an area with a population density below six persons per square mile. However, the concept could be extended to other rural areas that, while less isolated, may not be able to sustain a full-service hospital. A facility might provide convenient access to outpatient and emergency care, with a very limited inpatient component intended to stabilize emergency patients until they can be transported to fully equipped, centralized hospitals. Such a facility might also meet the need for "social admissions," such as those that occur when a frail elderly patient is unable to travel home immediately after outpatient surgery.

In summary, one partial solution to the problem of maintaining access to care in rural areas may be to begin redefining what access consists of, finding acceptable points on the continuum between a full-service hospital and no health care at all. Some communities have already succeeded in developing their own downscaled alternatives to a full-service hospital. Some of the hospitals that have closed their inpatient services in recent years continue to provide outpatient and emergency care.[115] The important difference in the MAF proposal is the possibility of reimbursement for very short-stay inpatient services; such reimbursement is not currently available to a facility not licensed as an inpatient hospital. Further Federal support for investigation of this and similar proposals represents, then, one more option for preserving or improving the rural health care system.

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[114]Lutz, Sandy. Montana to Test Plan to Create New Category of Healthcare Facility. Modern Healthcare, Sept. 9, 1988. p. 86.

[115]Several such cases have been reported in the Congressional Research Service's current survey of closed hospitals, as well as in a survey conducted by Modern Healthcare. See Burda, David. CEOs Say Not All Hospital Closings Have Sad Endings. Modern Healthcare, Mar. 24, 1989, p. 25-6.

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