

**VARIANCE IN THE PROFITABILITY  
OF  
SMALL-TOWN RURAL HOSPITALS**

**FINAL REPORT**

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## EXECUTIVE SUMMARY

The profitability of small-town rural hospitals varies widely from hospital to hospital. This study documents the variance in profitability and evaluates the characteristics that distinguish highly profitable small-town hospitals from struggling small-town hospitals. In addition to contrasting profitable and struggling hospitals, this study reports on strategies that small-town hospital administrators are using to achieve financial success. The paper concludes by discussing public policy priorities for assisting small-town hospitals in rural America.

### *Methodology*

This study focuses on the 1,001 general and surgical hospitals that are located in rural towns with fewer than 10,000 people. In this group of hospitals, we identified 48 highly profitable hospitals that consistently generate operating margins greater than 5 percent. We also identified 119 financially struggling hospitals that consistently generate operating losses that exceed 10 percent of patient revenue. The characteristics of the 48 highly profitable hospitals were contrasted with the characteristics of the 119 financially struggling hospitals.

Medicare cost report data were used to contrast small-town hospitals' financial and operating characteristics. Specifically, we compared efficiency, patient volume, pricing, and environmental variables for highly profitable hospitals to those of struggling hospitals. A series of t-tests were conducted to evaluate the statistical significance of differences in operational and environmental characteristics.

Following the evaluation of cost report data, we conducted site visits at six small-town hospitals to gain insights into administrator strategies for financial success. The objective of the site visits was to gather information on specific strategies that have led to financial success at small-town hospitals.

### *Findings*

Patient volumes appear to explain a significant portion of the difference in small-town hospital profitability. No small-town hospital with fewer than 300 admissions was able to generate significant profits and no small-town hospital with more than 2,500 admissions generated significant losses. Among the hospitals with between 300 and 2,500 admissions, there is a wide variance in profitability.

The case studies suggest that lower staffing levels and higher levels of visiting specialists can improve profitability. They also suggest that bad debts burdens can create significant financial strain. Bad debts were a primary cause of financial difficulty for two of our three financially troubled hospitals.

Differences in organizational structure of the six case study hospitals did not explain differences in profitability. We did not find any evidence to suggest that acquiring physician practices, operating nursing homes, performing community outreach or networking with other providers consistently increased or decreased profits. These case study findings may not necessarily be representative of all rural hospitals.

### *Implications for Policy*

Future policy discussions should focus on two sources of financial strain for small-town hospitals: bad debts and low volumes. Currently, bad debt burdens fall on private-payer patients and county governments. County governments' willingness and ability to reimburse hospitals for their bad debts will vary from county to county. Therefore, differences in bad debts may lead to differences in hospitals' financial viability and patients' access to care. MedPAC (June, 2001) has proposed that bad debt expense be considered when evaluating disproportionate share (DSH) payments. Further research is needed to evaluate whether DSH payments are an appropriate method for dealing with bad debts especially given the fact that Critical Access Hospitals do not qualify for DSH payments.

Policy makers have considered programs to pay low-volume hospitals an additional Medicare payment called a "low volume adjustment" if the hospital has fewer than 800 admissions. When structuring a low-volume adjustment, policy makers should consider basing the adjustment on something other than admissions. The difficulty with paying higher prospective payment rates to hospitals with fewer admissions is that it penalizes hospitals that attract a large percentage of local patients. For example, if a hospital improves the perceived quality of its services and reduces the number of patients that bypass the local hospital for more distant facilities, the hospital may reduce their chance of receiving a low-volume adjustment. An alternative to focusing on admissions is to base the low-volume adjustments on the number of people in hospitals' market areas. Hospitals that have very few potential patients in a defined market area (e.g. a 30-mile radius) could be given a low volume adjustment. By using the number of potential admissions or area population as the criteria for a low-volume adjustment, hospitals would have stronger incentives to be perceived as providing of high quality care and to retain patients locally.

Any system of dealing with the low-volume and bad debt problems will have to be sensitive to how the policies affect hospitals' incentives for cost control, quality improvement and whether the policies encourage more equal access to care for citizens in sparsely populated areas. Uncompensated care and low volumes are key problems for rural hospitals and need to be addressed in a careful and coordinated manner.

## 1.0 INTRODUCTION

The financial health of rural hospitals has been a frequent topic of debate among policymakers. While some research suggests small rural hospitals face severe financial hardships (The Lewin Group, 2000), the Medicare Payment Advisory Commission's (MedPAC) March 2001 report to Congress suggests that, *on aggregate*, rural hospitals consistently generate higher total margins than urban hospitals. This apparent paradox was highlighted when MedPAC presented its findings to the House of Representatives Ways and Means Subcommittee on Health in June, 2001. During that meeting, MedPAC chairman Glenn Hackbarth explained that rural providers have higher *aggregate* margins than urban providers due to higher profits on private payer patients.<sup>1</sup> Representative Jim Nussle of Iowa was perplexed by these results and responded, "I don't know what hospitals you are talking about ... I don't see my district or any of my facilities in the averages that are being discussed here. I just don't see it."<sup>2</sup>

Mr. Nussle correctly implied that many small rural hospitals are struggling, and Mr. Hackbarth was also correct when he stated that *aggregate* margins at rural hospitals are above those at urban facilities. Two facts explain the paradox. First, larger rural hospitals tend to have above average margins and swamp the losses from smaller hospitals when *aggregating* profits to create a weighted average profit margin. The second key to reconciling the two statements is recognizing that even among hospitals of similar size, there is a wide variation in profitability.

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<sup>1</sup> Committee on Ways and Means. "Rural Health Care in Medicare." Hearing before the House of Representatives, Committee on Ways and Means, Subcommittee on Health. June 12, 2001: Serial 107-33.

<sup>2</sup> *Ibid.*

In this paper, we focus on hospitals located in towns with fewer than 10,000 people. We focus on small-town hospitals because a lack of potential patients can cause low patient volume, and low patient volume has been found to be associated with financial difficulties (MedPAC 2001). Our purpose is to gain a better understanding of what conditions allow a few small town hospitals to thrive while many suffer significant losses. The study of financially successful and financially struggling hospitals takes place at two different levels. First, we use cost report data to compare characteristics of 48 highly profitable small-town hospitals with the characteristics of 119 financially struggling small-town hospitals. Second, we conduct case studies of three financially successful hospitals and three financially struggling hospitals. The combination of cost-report analysis and case study analysis is designed to accomplish the following objectives:

- ◆ Document the variance in profitability.
- ◆ Compare profitable and financially struggling hospitals.
- ◆ Report on strategies of financially successful small-town hospitals.
- ◆ Discuss public policy options for helping small-town hospitals

## **2.0 BACKGROUND – The Literature on Rural Hospital Profitability**

In general, the literature has concluded that economies of scale exist allowing hospitals with larger market shares and more patients to achieve greater profitability. However, the literature has not found strong evidence that offering specific services or operating under specific organizational structures led to superior financial performance. It could be said that the volume of services and volume of services per employee have

been correlated with profitability, but decisions to offer specific services and specific organizational structures have rarely been linked to superior profitability.

Mick and Morlock (1994) present a compelling argument that differences in strategic planning activities rarely cause differences profitability among rural hospitals. Their study of 13 strategic management activities – including group purchasing, mergers, multi-hospital affiliation, nursing home affiliation, outpatient services, and HMO affiliation – suggests that there is no consistent connection between strategic planning and positive (or negative) financial performance among 797 rural hospitals. Likewise, other studies have failed to find a connection between financial performance and strategic planning (Ermann, 1990; Mick, 1990; CBO, 1991). Smith (1992) has suggested that rural hospitals with highly developed strategic planning are more likely to achieve better financial performance. However, Smith’s findings have been questioned due to the study’s small sample size.

Researchers have also evaluated the effect of mergers and affiliations on rural hospital profitability; however, results are somewhat contradictory. Sinay (1998) found that extensive cost savings are realized by rural hospitals that form networks, whereas McCue (1997) found that rural hospitals with positive cash flow are less likely to be affiliated with a multi-hospital system than hospitals with negative cash flow. An extensive examination of rural hospital networks by Moscovice et al. (1995) did not find any “direct, easily observable linkages between network participation and the balance sheets of participating hospitals.”

Studies that evaluate the impact of for-profit ownership on profitability also provide mixed results. For instance, literature indicates that among hospitals in rural and

urban areas, those that are for-profit are at greater risk for closure and less likely to have positive cash flow than not-for-profit hospitals (Lillie-Blanton, 1992; McCue, 1997; Sinay, 1998). However, Trinh and O'Connor's (2000) large rural-specific study found that rural for-profit hospitals are more profitable than rural not-for-profit hospitals.

Studies that evaluate the impact of market share and volume of services paint a more consistent picture. MedPAC (June 2001) has shown that low-volume hospitals have higher costs per patient. Earlier studies found that hospitals with lower occupancy and fewer beds are at higher risk for closure and are less likely to have positive cash flow (Lillie-Blanton, 1992; McCue, 1997; Sinay, 1998). Increasing market share and volume of services appears to improve a hospital's performance (Trinh and O'Connor, 2000). Cleverley and Harvey (1992) examined 1,876 rural hospitals and found that sole providers and hospitals with increased market share had higher return on investment (ROI).

Labor productivity is another operational factor that has been examined in relation to hospital profitability. Studies of both rural and urban hospitals have found that high labor intensity and/or high labor costs are associated with lower profitability and higher risk of closure (Lillie-Blanton, 1992; Vogel, 1993). Similar results were found in Cleverly and Harvey's (1992) study of rural hospitals, which indicates that successful hospitals incur 26 fewer labor hours per discharge. In summary, the literature suggests that size and efficiency matter more than the mix of services and linkages with other providers.



### 3.0 METHODOLOGY - A Framework for Creating Financial Benchmarks

#### *Defining a “Small-town” Hospital.*

We used Rural Urban Commuting Areas (Morrill, Cromartie, and Hart; 1999) to identify a set of “small-town” rural hospitals. In this study, a hospital is defined as a “small-town” hospital if it is located in a community with fewer than 10,000 people where less than 30 percent of the population commute to a larger community for employment. Using this definition, we identified 1001 “small-town” rural hospitals.

#### *Defining “Financially Successful” Hospitals*

The objective is to find the most financially successful small-town hospitals. We used Medicare cost report data to identify 48 “small-town” hospitals that exhibited the following three indicators of financial success.

- 1) A median **operating margin** during the years 1994 through 1998 that was one of the top 100 median operating profit margins (>5.5%) for small-town hospitals during that period.
- 2) A median **total profit margin** during 1994-1998 that was one of the top 100 net profit margins (>10%) at small town hospitals during that period.
- 3) During the fiscal starting in 1998, the hospital’s net profit was greater than 3% of the hospital’s net assets.

Criterion one, the operating margin criterion, identifies hospitals that can survive on operating income and do not have to rely on significant community and charitable donations. Criterion two, the net profit criterion, requires that hospital be rapidly building financial reserves. Criterion three identifies hospitals that were resilient enough to absorb a significant cut in Medicare payments as happened with the implementation of the Balanced Budget Act of 1997. This indicates that the hospital had a sustainable level

of net income after the BBA was implemented. In this paper, “sustainable net income” refers to a return on net assets equal to or greater than the rate of inflation.

### *Defining Financially Struggling Hospitals*

From the population of 1001 small-town hospitals, we selected 119 small rural hospitals that were deemed financially struggling according to the four criteria listed below.

- 1) Median operating margin were less than -10% during the 1994-1998 time frame
- 2) Operating margin were less than -10% in 1998
- 3) Median net profit during 1994-1998 were less than 3% of net assets
- 4) Net profits in 1998 were less than 3% of net assets

The purpose of these four criteria are to identify hospitals located in small rural communities that generated significant operating losses and do not generate enough non-operating income to be sustainable. A median operating margin of less than negative 10 percent over a five-year period suggests that the hospital will have to undergo substantial restructuring to generate operating profits. By including a net profit figure, we eliminate hospitals that have high level of non-operating income and therefore do not need operating income for survival. For the 119 “struggling” hospitals to survive over the long term, they will either have to significantly increase operating profitability or receive increased contributions from governmental and private donors. These 119 hospitals have not been generating enough net income to fund the replacement and modernization of the hospital buildings and equipment.

### *Analysis of Secondary Data*

We have described a framework for identifying a set of financially successful small-town hospitals and a set of financially struggling small-town hospitals. The next step is to evaluate the factors that distinguish the two sets of hospitals. Medicare cost report, Census Bureau, and Area Resource File data are used to contrast the financial and demographic characteristics of financially successful and struggling hospitals. The Census Bureau and Area Resource File data allow us to compare demographic characteristics of the city and the county where the hospital is located. The Medicare cost reports allow us to compare prices, cost structures, staffing levels, and volumes of services at profitable and struggling hospitals.

### *Selecting Hospitals for Case Studies*

Following an evaluation of demographic and Medicare cost report data, site visits to three successful and three struggling hospitals were scheduled. Each one of the 48 financially successful hospitals were matched with a struggling hospital that operated in a similar environment. From the 48 pairs of successful and struggling hospitals, we selected three pairs of profitable and struggling hospitals using the following criteria:

- a) Both hospitals have the same RUCA code indicating similar levels of isolation from urban areas.
- b) Both hospitals are in towns with a similar population.
- c) Both hospitals are in counties with a similar incomes per capita.
- d) Both hospitals are in counties with similar economies.

- e) Both hospitals are non-profit hospitals. For-profit facilities may consider their management strategies proprietary.
- f) To the extent possible, we wanted to visit hospitals that have been financially successful while admitting very few patients (under 500 admissions) and/or operating in very small towns (population under 2,500) and/or operating in a community with low income per capita (under \$17,000).

We used the six criteria listed above to select six hospitals for site visits, as shown in Table 1. The hospitals cover three types of rural demographics. The first pair of hospitals are located in very small towns in a retirement area of the same state. The second pair are in agricultural counties of adjacent prairie states. The third pair of hospitals are located in sparsely populated areas of a state where ranching and mineral extraction are prevalent. The demographic characteristics of these states are shown in Table 1.

**Table 1 – Site Visit Hospitals**

Hospital	Geographic Region	Economic Base	2001 Population	1998 County Population Per sq. mile	1998 County Income Per Capita	1998 Discharges	Median 1994-98 Operating Margins
PR-SE	Southeast	Tourism Retirees Agriculture	1,000	400	17,000	1,900	10%
UN-SE	Southeast	Tourism Retirees Agriculture	2,000	300	18,000	600	-12%
PR-MW	Midwest	Prairie Agriculture	3,000	200	20,000	300	8%
UN-MW	Midwest	Prairie Agriculture	4,000	200	21,000	700	-10%
PR-SW	Southwest	Mining/Oil Ranching	6,000	100	14,000	900	6%
U-SW	Southwest	Mining/Oil Ranching	6,000	100	16,000	400	-45%

Note: Data are rounded to improve anonymity.

### *Data collected from site visits*

The purpose of the site visits is to collect data that are not available from secondary data sources. Specifically, we discuss pricing, staffing, physician relations, and service mix strategies with hospital administrators. The objective is to gain managers' insights into strategies for successfully operating a low-volume hospital in a small rural market. In particular, we want to gain insights into strategies for increasing the volume of patients at the hospital and efficient staffing since the literature suggests that these two factors are correlated with higher profitability.

## **4.0 RESULTS**

### **4.1 Descriptive Statistics**

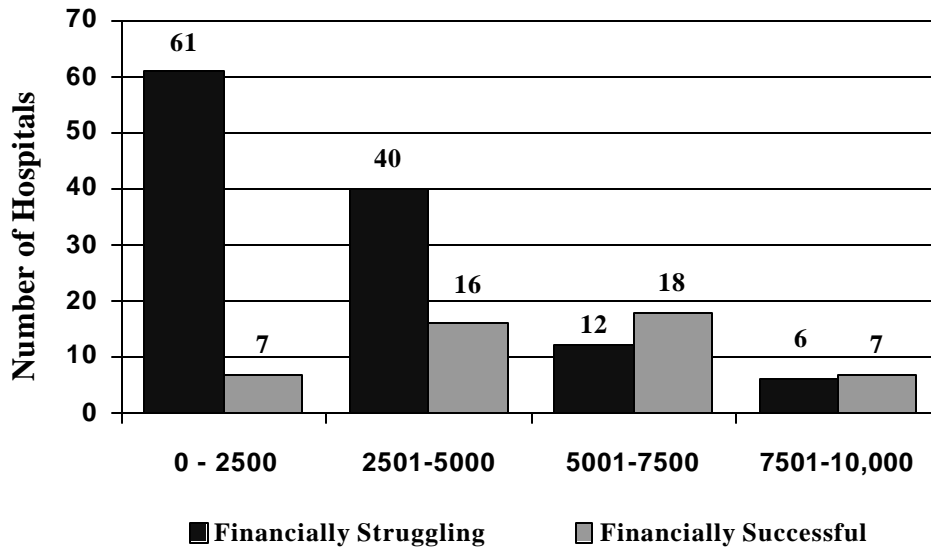
Our first series of descriptive statistics examines patient volumes, input prices, charges per unit of service, patient characteristics, product mix and efficiency indicators for both financially successful and financially struggling hospitals. The objective is to evaluate whether the difference in income is due to differences in patient volume, charges, staffing, and/or the costs of inputs such as labor.

#### *Patient Volume – a significant correlation with profitability*

Figures 1 and 2 illustrate the importance of economies of scale. Figure 1 illustrates how hospitals in the smallest towns have a much greater chance of suffering significant losses. Hospitals in towns of fewer than 2,500 people were six times more likely to be financially struggling than financially successful. In contrast, hospitals in towns of between 5,000 and 10,000 people were more likely to be financially successful than struggling. We assume that population size leads to higher patient volumes and

improved odds of financial success. Figure 2 illustrates that hospitals with less than 500 admissions represent 50 percent of financially struggling small-town hospitals and only 5 percent of financially successful small-town hospitals in our sample. The data in Figures 1 and 2 support the literature that suggests that the size of a hospital's market and the number of admissions strongly affect a hospital's odds of financial success.

**Figure 1: Number of Financially Successful and Financially Struggling Hospitals By Town Population**



**Figure 2: Number of Financially Successful and Financially Struggling Hospitals By Number of Discharges**

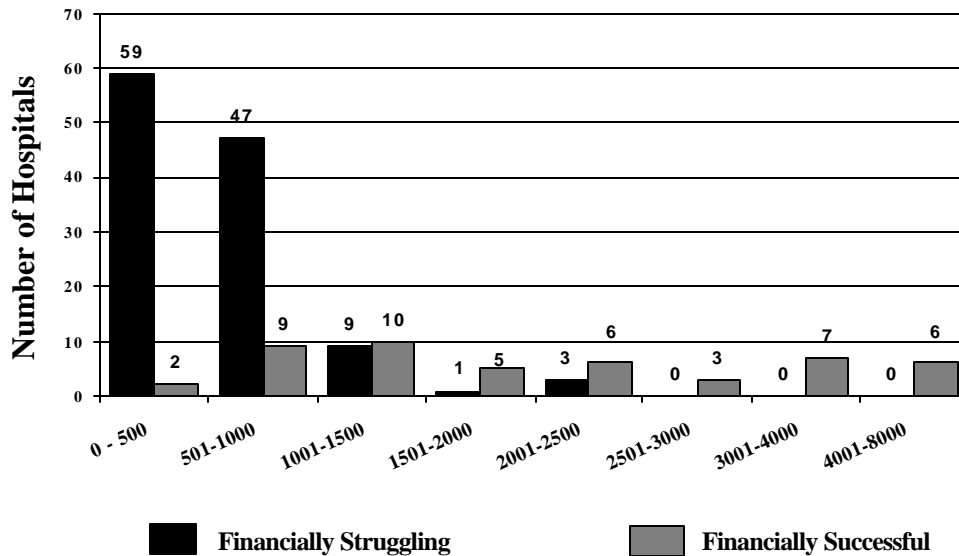


Table 2 shows that financially successful hospitals tend to be significantly larger (as measured by beds, discharges, and employees) than the financially struggling hospitals. Table 2 also shows that financially successful hospitals tend to be located in larger towns and in counties that are more densely populated. While being a profitable low-volume provider is very difficult, it is not impossible. Our sample of 48 financially successful hospitals included two hospitals that consistently generated operating profits while admitting fewer than 500 patients per year.

*Differences in Labor and Capital Costs – insignificant correlation with profitability*

There is nothing in the cost-report data to suggest that below average financial performance at the 119 financially struggling hospitals is associated with above-average wages. Table 2 shows that successful and struggling hospitals have similar Medicare wage indexes and financially successful hospitals tend to have higher average wages per employee. The difference in wages has at least two possible explanations. First, hospitals that are highly profitable may be more capable of providing significant raises to their employees. Second, more successful hospitals may employ a different mixture of employees including a larger share of employees with expensive skill sets.



**Table 2. Descriptive Statistics (Formulas for statistics are shown in Appendix D)**

Descriptive Statistic	Mean and (s.d.) For Financially Successful Hospitals N=48	Mean and (s. d.) For Financially Struggling Hospitals N=119	The Difference
<b>Profitability Criteria</b>			
Median operating margin 1994-98	12%	-19%	NA
Median total margin 1994-98	16%	- 5%	NA
<b>Organizational Structure</b>			
CAH conversion by 1-1-2001	4%	27%	23%**
For-profit hospital	23%	4%	19%**
<b>Community and Hospital Size</b>			
Population of the hospital's town	5,224 (2,317)	2,995 (1,983)	2,269**
Population per sq. mile in the county	447 ( 224 )	232 (373)	215**
Staffed beds 1998	71 (45)	33 (15)	38**
Inpatient days 1998	10,166 (8623)	3,040 (2349)	7,216**
Hospital discharges (94-98 median)	2,290 (1,699)	586 (422)	1,704**
Employees (FTEs) 1998	243 (166)	102 (59)	141**
Total assets in 1994	15,592,929 (15mm)	4,100,547 (4mm)	11,492,382**
<b>Wage and Capital Costs in 1998</b>			
Average wage per FTE	31,302 (3,880)	28,549 (6,009)	2,753*
Medicare wage index	.83 (.08)	.80 (.09)	.03
Wages / average rural wage in state	1.05 (.10)	.99 (.17)	.06
Debt to assets ratio	.36 (.28)	.43 (.39)	.07
<b>Output Prices in 1998</b>			
Charges per adjusted inpatient day	1,933 (654)	1,699 (1041)	234
Discounts/total charges	.38 (.14)	.28 (.12)	.10**
<b>Patients' Ability to Pay 1998</b>			
Income per capita in the county	17,041 (2879 )	17,335 (3743 )	294
DSH % at the hospital	.25 (.15)	.25 (.20)	0
Days of receivables outstanding	109 (71)	126 (66)	17
<b>Patient and Services Mix in 1998</b>			
Medicare case mix index 1998	1.12 (.10)	.99 (.10)	.13**
Medicare days/inpatient days	.57 (.10)	.66 (.16)	.09*
Swing bed days/inpatient days	.08 (.13)	.27 (.25)	.18**
Outpatient charges/all charges	.50 (.12)	.52 (.16)	.02
Lab charges per acute day	574 (261)	645 (470)	71
Pharmacy charges per acute day	608 (245)	486 (254)	122*
Radiology charges per acute day	662 (300)	467 (387)	194*
<b>Efficiency Indicators in 1998</b>			
Average length of stay	3.72 (.73)	3.73 (.93)	.01
Average occupancy	.36 (.15)	.24 (.12)	.12**
Discharges per staffed bed	32 (13)	17 (9)	15**
FTE per adjusted occupied bed	5.05 (1.59)	7.52 (5.98)	2.47*
Discharges per FTE	10.9 (4.0)	5.6 (3.0)	5.3**
Salary expense per inpatient day	430 (131)	573 (434)	144*
Non-salary exp. per inpatient day	542 (162)	607 (485)	65
Salary expense/ total expense	.47 (.06)	.51(.07)	.04*
Revenue per FTE	79,686 (21,256)	48,954 (12,460)	30,732**

\* Significant difference at the p=.01 level in a t-test without a Bonferroni adjustment.

\*\* Significant difference at the p=.01 level with a Bonferroni adjustment for the number of variables tested.

The Bonferroni conservatively corrects for the number of t-tests being conducted by dividing the P value by the number of values being tested.

In addition to wage costs, hospital profits may be influenced by capital costs. Some hospitals have been able to finance acquisitions of buildings and equipment with contributions or past profits, while others shoulder the burden of high debt-service payments. Cost report data, however, indicates that the debt levels of financially successful and financially struggling hospitals are not systematically different. We found **no** evidence to suggest that differences in labor costs or differences in debt service costs are related to differences in hospital profitability. We do not have data on prices negotiated for supplies and equipment; however we assume that prices paid for supplies and equipment would be similar for most hospitals since many hospitals are involved in multi-hospital purchasing coalitions. Hence, we find no evidence to suggest that differences in input prices explain the wide variance in hospital profitability.

#### *Output Prices (patient charges)*

Hospitals are forced to accept Medicare and Medicaid rates. However, they can set rates for self-pay patients and negotiate rates with insurance companies. Charges often influence the prices paid by insurance companies since contracts are often negotiated based on a specific percentage discount to charges. Cost report data do not tell us charges for specific services, but we can calculate inpatient charges per day and discounts to charges. The data suggest a wide distribution of charges per inpatient day, but we do not find any statistically significant difference in inpatient charges between the financially successful and struggling hospitals.

Table 2 reports a higher discounts-to-charges ratio at the more successful hospitals. The discounts-to-charges ratio is 28 percent for struggling hospitals, 38 percent for profitable hospitals. We should note that the 11 profitable for-profit hospitals in the sample have a discount to charges ratio averaging 54 percent. Since payment rates for Medicare and Medicaid are fixed, a high discount to charges ratio suggests that financially successful hospitals may have higher charges for their services, particularly outpatient services. While our data suggest that higher prices are correlated with higher profits, a study of claims data would be needed to obtain definitive proof of that correlation since we only have data on discounts to charges not on actual prices.

*Differences in Patient Income – insignificant correlation with profitability*

Higher charges will only help rural hospitals if patients have the ability to pay. We examined three indicators of ability to pay: income per capita in the county, days of receivables outstanding, and disproportionate share (DSH) percentage at the hospital. The DSH percentage is equal to the sum of Medicaid patients and Medicare patients that are eligible for supplemental security income. The DSH percentage is an indicator of poverty among the hospital patients. Surprisingly, the mean values of the three indicators were not significantly different at financially successful and financially struggling hospitals.

*Product Mix – Some correlation with profitability*

Financially successful hospitals were more likely to treat patients with more complex conditions as indicated by the Medicare case mix index. They were also more

likely to have higher pharmacy and radiology charges per discharge. It is not clear whether the higher charges are due to higher prices, differences in types of services, or greater volume of services. Claims data would have to be evaluated to differentiate between differences in charges and differences in volumes of individual procedures.

*Efficiency measures – Staffing levels are correlated with profitability*

The 48 financially successful hospitals received an average of \$79,686 of patient revenue per employee in 1998 compared to an average of \$48,954 for financially struggling hospitals. Differences in revenue per employee are even more dramatic when examining for-profit and not-for-profit hospitals. The 11 successful for-profit hospitals in our sample generated \$108,350 in revenue (net of discounts) per employee. While the difference in revenue per employee may partially be due to differences in prices, lower staffing levels at the profitable hospitals appear to play a significant role. Financially struggling hospitals in this study have 7.5 FTEs per adjusted occupied bed, financially successful nonprofits have 5.3 FTEs per adjusted occupied bed, and financially successful for-profit hospitals have 4.1 FTEs per adjusted occupied bed. Four FTEs per adjusted occupied bed has long been considered a benchmark for financially successful hospitals (Cleverly, 1998; Zizmer and Hoffman, 1995). The financially struggling hospitals had higher salary expense per inpatient day despite having lower acuity as measured by the Medicare case mix index and having a higher proportion of low-paying swing bed patients. Swing bed patients account for 30 percent of inpatient days at financially struggling hospitals and only 5 percent of inpatient days at financially successful hospitals. In this study we do not evaluate whether the reported differences in staffing levels at rural hospitals affect the quality of care.

## 4.2 Case Study Results

The descriptive statistics indicate that financially successful hospitals tend to be larger facilities with lower staff to patient ratios and much higher levels of revenue per employee. What the secondary data cannot tell us is the strategies that administrators have used to increase revenue and profitability. We turn to discussions with administrators from financially successful and struggling hospitals to gain additional insights into the strategies and circumstances that have led to vast differences in hospital profitability.

Administrators from three financially successful small-town hospitals and three struggling small-town hospitals discussed overcoming the challenges of low patient volumes and weak regional economies. First, to gain insights into overcoming the problem of operating in a small community, we visited a hospital that operates profitably in a town of less than 1,000 people. Second, to gain insights into overcoming the problem of low admissions, we visited a hospital that operates profitably while admitting less than 500 patients per year. Third, to examine the problem of serving patients in a low-income area, we examined a financially successful small-town hospital in a county with per capita income below \$15,000 in 1998. Each of the three profitable hospitals was paired with a hospital that was operating in a similar environment, but was struggling financially. By pairing financially successful hospitals with financially struggling hospitals, we can focus on non-environmental differences that impact profitability.

An overview of the differences in the six hospitals' management and service offerings is shown in Appendix A. Appendix B has a comparison of the hospital's

financial performance, and Appendix C compares prices charged for a sample of services at the various hospitals. In the case of each pair of financially successful and financially struggling hospitals, we identified one or two key issues that contributed to the difference in the two hospitals' profitability. These key distinguishing factors are discussed in the case studies shown below. We should stress that the case studies are six distinct hospitals and may not be representative of all rural hospitals.

#### **4.2.1 Case Study #1: Physician Relations, Regionalization, and Bad Debts**

##### *Background*

The hospitals selected for this case study are located in a scenic area of a southeastern state. Both the profitable southeastern hospital (PR-SE) and the unprofitable southeastern hospital (UN-SE) operate in towns with fewer than 2,000 people. The towns have similar economies that rely heavily on tourism and retirees as part of their economic base. From 1994-1998 the profitable hospital had a median operating margin of 10 percent while the unprofitable hospital had a median operating margin of -12 percent. Net assets (assets minus liabilities) grew at a rate of 10 percent per year at the profitable hospital. At the unprofitable hospital, contributions from the county kept the hospital alive, but the hospital's losses were not fully covered by government contributions causing the hospital's net assets to decline by 15 percent from 1994-1998. A more complete comparison of the operating statistics of these two hospitals is available in Appendix B.

### *Differences in Physician Loyalty*

The administrator of the profitable hospital attributes her financial success to maintaining a satisfied physician staff. The community has 11 physicians including one surgeon, two midlevels and two midwives, summing to a total of 16 local admitting providers. The hospital also hosts visiting specialists who hold a total of 88 specialty clinics per month. The hospital is in a retirement/recreational area two hours from an urban area with an abundance of specialists, and this creates an advantage for attracting visiting specialists. Some specialists own weekend homes in the area and choose to see area patients during Friday and Monday. The local hospital captures most of the local and visiting physicians' and local physicians' ancillary business. Only two local physicians use a reference lab as their primary laboratory. While the town has fewer than 1,000 people, the administrator estimates that there are at least 17,000 people in the market area with some traveling more than 30 miles to this community for care. The hospital has had between 1,500 and 2,000 admissions per year. Given that the number of admissions across the U.S. is equal to approximately 10 percent of the U.S. population (DHHS, 2001), it appears that very few patients in the market area are bypassing PR-SE for other facilities.

While the financially struggling hospital (UN-SE) is located in a very similar demographic and geographic region to PR-SE, the unprofitable facility has had an extended period of troubled relationships with local physicians. In 1998 there were two unprofitable hospitals in the community. Physician and community loyalty was divided between the two hospitals. Due to the local competition for admissions and possibly due

to discord with local physicians and the local community, the unprofitable hospital (UN-SE) had one-fifth the total revenue of PR-SE.

Recently, the unprofitable hospital (UN-SE) merged with the other unprofitable hospital in its community and closed one of the two hospital buildings. UN-SE is now the only hospital in town. Despite the consolidation, UN-SE only generates half as much revenue as PR-SE, despite having a similar market area. One reason for continued financial difficulties at UN-SE is that the legal merger of hospitals had not resulted in a merger of physician minds or physician loyalties. Following the merger, two to the physicians in the unprofitable hospital's community decided to admit patients to a hospital twenty miles away rather than use the local merged facility. The community continues to be divided and the hospital continues to lose money despite the merger.

### *Similar Cost Structures*

Given the differences in volumes of the two hospitals, we would have expected the unprofitable hospital to have a higher cost structure due to a lack of economies of scale. This is not the case. The hospital (UN-SE) has been able to maintain a very low cost structure despite its lack of admissions. As is shown in Appendix C, hospital UN-SE has relatively low administrative (\$264) and physical plant (\$284) expenses per inpatient day. The profitable hospital has a similar overhead structure, \$294 per day in administrative costs and \$276 per day in physical plant costs.

Appendix C indicates that the pricing structure is similar for both hospitals with the struggling facility (UN-SE) having higher charges for certain services. Differences in charges do not appear to explain the differences in profitability of UN-SE and PR-SE.



When we compare charges across all six hospitals in this study, there appears to be a pattern of regional differences in the pricing of services. Administrators acknowledged that prices are often based on prevailing charges in the market place rather than on any cost accounting estimates. The result is that we often see similar charges within each region, but widely varying charges across regions. For example, the two Southeastern hospitals in this study have similar charges for providing a comprehensive metabolic panel (\$65 at PR-SE and \$67 at UN-SE), and the two Southwestern hospitals had significantly higher charges for the same panel (\$130 PR-SW and \$145 UN-SW). While the Southwestern hospitals tended to have higher lab charges, they had lower charges for room and board in semi-private acute care beds. It appears that different types of patients bear the burden of cost shifting in different regions.

### *Significant Bad Debts*

While we did not find systematic differences in the hospitals' charges, we did find a major difference in the two hospitals' abilities to collect the fees they charge private paying customers. The struggling hospital UN-SE faces a serious bad-debts problem. Over the past four years, the profitable hospital has had bad debts in the range of \$400,000 to \$1,000,000 per year, representing between 3 percent and 7 percent of net patient revenues. The profitable hospital, PR-SE, is able to shoulder its bad debt burden due to the profitability of its substantial volume of ancillary services. The unprofitable hospital had bad debts of close to \$1,000,000 per year, but due to its small size these bad debts represent over 20 percent of the hospital's net patient revenues. Since bad debt expense was larger than operating losses (20% vs. a 12% operating loss), it is clear that

the UN-SE could have operated profitably if it had been able to collect its accounts receivable. The unprofitable hospital has made progress in reducing bad debts and reducing the time it takes to collect receivables, but they will need to address this problem to achieve profitability.

### *Leadership and Strategy*

Leadership at PR-SE hospital has been very stable. The current administrator is from the community, has been an employee of the hospital for over thirty years and administrator for eight years. She attributes her success to being accommodating to physicians and building a strong medical staff without employing physicians. The administrator believes that employed physicians tend to be less productive. Instead, the hospital does whatever it can to accommodate local providers and visiting providers. They have been very successful with this strategy and have 11 local physicians, more than would be expected for a market area of 17,000 people (Zismer and Hoffman, 1995). The hospital had operated a rural health clinic in a neighboring community, but has since closed that facility. Rather than relying on outreach clinics in small towns surrounding the hospital, services are now centralized. Physician offices are located near or on the hospital campus. Patients have a centralized location for services, and the hospital can provide the physicians with quick turn around on their diagnostic services. An in-house pathologist allows for quick turnaround on biopsy tests. The hospital has been able to capture an impressive share of the regional market without making significant expenditures on either community outreach programs or making any efforts to formally network with other providers.

In contrast to the profitable facility, leadership at the unprofitable hospital has been in flux. The hospital is currently under the leadership of a temporary administrator. It is his job to try and repair frayed relationships with the medical staff and the community at large. This will not be an easy task. Looking forward, he hopes to attract an obstetrician, a general surgeon and an orthopedic surgeon into the community. This may be difficult since these are precisely the same type of providers that the profitable hospital in a neighboring county would like to attract.

Both hospitals have very similar strategies for addressing the needs of their communities. But PR-SE has clear advantages in starting from a base of stronger financial reserves, better physician relations, smoother community relations, and a management team that has more experience in the local community. The benefit of the PR-SE hospital's advantages have resulted in clear difference in operating performance.

#### *Administrators' advice on physician relations and bad debt*

To increase patient volume and reduce bad debts, hospitals each develop their own strategy that accounts for the employee, medical staff and market area characteristics of their hospital. We asked administrators from the six hospitals in this study to share what they think has helped their hospitals. These administrators had the following suggestions for improving physician relationships and dealing with bad debt problems:

- 1) Every three months the administrator should hold a small round-table meeting with a rotating group of two local physicians and two board members. The objective is to discover and resolve thorny issues before those issues cause people to stop talking with each other.
- 2) When dealing with physician staff, be prepared to turn the other cheek.

- 3) Spend some money on physician lounges. You want your doctors to spend time in the lounge talking to each other and to visiting specialists.
- 4) Aggressively recruit visiting specialists. They will increase the volume of ancillary services at your hospital and improve economies of scale.
- 5) Ask visiting specialists to occasionally come to medical staff meetings.
- 6) Locate the hospital next to a major highway. This will help both patient volume and visiting specialists' willingness to come to the facility.
- 7) Require that every patient set up a feasible payment plan prior to receiving non-emergency care. Request deposits prior to surgeries.
- 8) If there is evidence that the patient has the financial ability to pay, then the hospital could garnish wages or put liens against the patients' assets.

#### **4.2.2 Case Study #2 – Squeezing Costs**

##### *Background*

The two hospitals selected for the second case study are located in small agricultural towns in the Midwest. The profitable Midwestern hospital (PR-MW) was selected because it has been able to consistently generate operating profits despite having less than 500 admissions per year. We chose to visit this hospital to see whether it can serve as a model for overcoming the economies of scale problems related to operating with a low volume of inpatient admissions. The financially strained hospital (UN-MW) was selected because it operates in a similar, though slightly more favorable environment than the profitable hospital. The profitable hospital operates in a community of approximately 3,000 people with a market area of 9,000 people and the unprofitable hospital operates in a town of approximately 4,000 people with a market area of 15,000 people. The communities are located in neighboring states and both look like typical small towns (e.g., businesses on Main Street and a grain elevator on the edge of town).

Both hospitals are the only facility in town with competing hospitals 20 to 30 miles away and a tertiary care facility approximately one hour away.

From 1994-1998 the profitable hospital (PR-MW) had a median operating margin of 8 percent and a median net margin of 12 percent. Due to consistent profitability, the hospital's net assets grew at a rate of 10 percent per year. The financially strained hospital is dependent on support from the county for survival. Due to county support, the unprofitable hospital was able to compensate for its operating margin of -10, and net assets grew at a 3 percent rate from 1994 through 1998. The hospital's expenses grew at a 5 percent rate during that time suggesting that the hospital's financial reserves are not keeping pace with growing costs at the hospital.

#### *Strategic and Leadership Differences*

The administrator of the successful hospital stated that the primary reason for his hospital's financial success is that he has been very "tight" with expenditures. He has managed the hospital for thirty years and chosen not to own a physician clinic, a long-term care facility or an assisted living facility. PR-MW is located in a single story building and employs a total of 9 FTEs in the dietary, housekeeping, building maintenance, and laundry functions. The CEO serves as the CFO and is in charge of public relations. The simple physical and employment structure allowed the hospital to keep its total operating expenses under \$4,000,000 in fiscal year 1998-99 and generate approximately \$60,000 in operating income and \$300,000 in net income.

In contrast, the unprofitable facility UN-MW has chosen the path of diversification and expansion. UN-MW has chosen to operate a long-term care facility, build assisted living units, operate the county's public health functions, and even offers

massage therapy. The extra services require additional staff, and UN-MW had between 201 and 218 FTEs in recent years. The facility is located in a four-story building with two elevators and employs 41 people in dietary, maintenance, housekeeping and laundry functions. The unprofitable hospital had total operating expenses of \$11,000,000 in 1998-99, an operating loss of approximately \$500,000, and net income after county contributions of approximately \$100,000.

### *Operational Differences*

Diversification can be profitable if the additional services are able to generate enough revenue to cover their direct costs and the expanded overhead that accompanies diversification. The unprofitable hospital had patient revenue per employee of \$43,000 in 1998. Even if we adjust for public health grant funds and a recent reduction in employees, the unprofitable hospital would still have only generated \$48,000 per employee compared to \$62,000 per employee for the profitable facility. The difference in revenue per employee of \$14,000 could be due to either differences in productivity of the hospital's core inpatient and outpatient staff, the cost of the additional services at the unprofitable facility, or differences in prices charged for services.

First consider productivity of inputs in producing inpatient and outpatient services. Following conversion to CAH status, both the profitable and unprofitable hospitals have reduced their capacity down to 15 acute beds and 10 swing beds. While the profitable facility has had an average acute census of 3 patients, the unprofitable has an average acute census of 7. The profitable hospital has a nursing staff of 27 including 15 FTE registered nurses; the unprofitable facility has an acute care nursing staff of 27

including 19 FTE registered nurses. The unprofitable facility is caring for more inpatients with the same nursing staff as the profitable facility. This leads us to believe that the unprofitable hospital is taking advantage of its greater economies of scale and is operating with a lower nurse to patient ratio. Ancillary services employees appear to be at least as productive at UN-MW as at PR-MW. Appendix C reveals that the unprofitable facility generated more lab measurements per employee and more radiology procedures per employee than the smaller more profitable facility. Appendix B shows that the profitable and unprofitable facilities have similar numbers of surgeries and similar total charges for surgeries and births. In sum, staffing of inpatient and outpatient services does not appear to explain the difference in the two facilities profitability.

While charges for specific services vary significantly from hospital to hospital, we found limited evidence of systematic differences in the prices charged between the two Midwestern facilities other than laboratory services. For the sample of three laboratory services shown in Appendix C, the unprofitable hospital's lab fees were on average 30 percent below the profitable Midwestern hospitals fees and less than half the charges of the two Southwestern hospital. A 30 percent increase in lab fees would have been equivalent to \$300,000 in additional charges for the unprofitable facility. In contrast to lab fees, it is the profitable facility that appears to have below average pharmacy fees. Rather than price services based on competitors prices, the pharmacy at PR-MW sets charges based on a fixed percentage increase over costs.

Since productivity and prices do not appear to explain the differences in profitability, we are left with differences in the hospital's product mixes and physical facilities. The unprofitable facility has a long term care facility on the third and fourth

floors of its hospital building. The hospital's long-term care operation only generated \$36,000 of revenue per employee. The \$36,000 per employee is equivalent to approximately \$1,800,000 of gross revenue. The long-term care wing had direct expenses of approximately \$900,000 and gross profits of \$700,000 after accounting for direct expenses in fiscal year 1998-99. If the hospital's overhead was allocated based on employees or revenues, the long-term care facility would be allocated between \$800,000 and \$1,100,000 in indirect expenses such as employee benefits and administrative overhead. When accounting for its share of indirect expenses, the long-term care wing is generating at loss of at least \$100,000 per year. The hospital also operates the county's public health service. Public health appears to cover its share of the hospital's overhead expenses.

Diversification is a choice. The willingness of county commissions to spend county tax dollars to fund a broader array of health care services will differ from county to county. The county that owns the unprofitable facility has chosen to serve its community by having the hospital employ long-term care employees, public health employees, social workers, nursing assistants in an assisted living center, and employees of a new rural health clinic. The county has chosen to provide enough of a subsidy to cover the additional costs of these services. In fact, the negative operating margins at UN-MW could indirectly be due to the county's willingness to subsidize the employment of more hospital staff than is profitable. In the case of the two Midwestern hospitals, differences in profitability appear to be more a function of differences in services offered at the two hospitals than differences in the hospitals' ability to efficiently deliver those services.



### *The Impact of Critical Access Hospital Status*

In recent years, both hospitals have converted to Critical Access Hospital status. Critical Access Hospital status allows the hospitals to receive cost-based payments for services provided to Medicare patients. The analyses of the two conversions by the hospitals' accountants project that Medicare payments to the unprofitable hospital will increase by approximately \$1,000,000 per year and payments to the profitable hospital will increase by approximately \$400,000 per year.

The currently unprofitable hospital (UN-MW) should be able to operate profitably once Medicare pays the full cost of Medicare services. Historically the profits on private payer patients were needed to cover losses on Medicare patients at the hospital. With conversion to CAH status, Medicare will fully cover its share of direct costs and its share of hospital overhead. Profits on private payer patients can be used to subsidize the hospital's subsidiaries such as long-term care. Continued contributions from the county can be used to build financial reserves for future capital spending needs.

The profitable hospital, PR-MW, could survive with or without CAH conversion. Consistent profitability has allowed PR-MW to build substantial reserves, and the hospital is using those reserves to build a new wing on the hospital. In future years, the extra \$400,000 in Medicare reimbursement will allow the hospital to replenish its financial reserves. When the current administrator retires, he will pass on a physically updated and financially stable hospital to his successor.

### *Advice from Administrators regarding expense control*

Several administrators interviewed for this study have given suggestions for controlling costs at rural facilities. A few of their tips are as follows.

- 1) Get a good CPA even if it costs a little more. They should be willing to provide quick telephone consultations when the administrator makes day-to-day and strategic decisions.
- 2) Give expenditure reports to the managers of each area and even to the day and night shift managers. **Tie managers' compensation to their departments' expenses.** Managers will then have an incentive to limit the costs of supplies and to bill patients when appropriate for supplies that are used.
- 3) Be reluctant to lease equipment. Lease payments implicitly include a charge for essentially borrowing money from the vendor. Offer to pay cash for equipment in exchange for a lower negotiated price.
- 4) Think of profit as an "Investment in Future Needs." If the hospital does not generate consistent profits, it will not have the resources to serve people in the future. It is not a question of balancing current health care needs vs. profits, but a question of balancing current health care spending against a need to save for future health care needs.
- 5) To control expenses without building resentment, give the same set of benefits to all employees including the hospital administrator.

#### **4.2.3 Case Study #3 – Long-term Physician Recruitment Strategies**

The financially successful hospital in the Southeast was able to create a small medical center because several physicians were essentially willing to "recruit themselves" to the area. Physician supply and population growth made inpatient and outpatient growth a feasible strategy for success. In the case of the financially successful Midwestern hospital, the local physicians were able to recruit a sufficient number of physicians to the community without a major commitment from the hospital. This third case study examines two communities where hospitals are forced to aggressively recruit physicians to maintain and grow their medical staffs. The two communities picked for

this case study are in low-income counties that appeal to fewer prospective physicians due to their geography.

### *Background*

This case study focuses on two isolated communities located in a southwestern state. Both the profitable southwestern hospital (PR-SW) and the unprofitable southwestern hospital (UN-SW) operate in towns with populations in the range of 5,000 to 6,000 people. The economies of the area rely on ranching and mineral extraction. The natural environment and economy do not support a high density of population and both counties have fewer than 100 people per square mile. From 1994-1998 the profitable hospital had a median operating margin of 6 percent while the unprofitable hospital had a median operating margin of -45 percent. Net assets (assets minus debts) grew at a rate of 16 percent per year at the profitable hospital. At the unprofitable hospital, contributions from the county kept the hospital alive, and allowed net assets grow at a rate of 3 percent per year from 1994-1998.<sup>3</sup> A more complete comparison of the operating statistics of these two hospitals is available in Appendix B.

### *Strategies for Physician Recruitment*

Both hospitals have a physician recruitment challenge and have used two strategies to address the challenge. The first recruitment strategy is to attract physicians under the J-1 visa waiver program. The second recruitment strategy is to have members

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<sup>3</sup> The hospital's financial statements report a net loss every year. But due to county contributions that were not recorded on the cost reports, the hospital was able to increase its net assets.

of the community become physicians and return to practice. The state where these hospitals are located will pay 50 percent of a medical student's educational expenses if the local community pays the other half of the students' expenses. The physicians then owe their sponsoring communities one year of service for every year of financial support that the physician received while in college and medical school. The hospital boards of both communities attempted to use this program to "grow their own" physicians. One hospital succeeded. One failed.

### *Successful Execution and Recruitment Momentum*

The profitable Southwestern hospital (PR-SW) has six physicians in town. One was came under a J-1 visa and decided to stay. Four were young men from the local area that the hospital sponsored through college and medical school. To date all four candidates that PR-SW sponsored during their undergraduate studies got into medical school and chose to come back to their hometown to practice. The administrator of PR-SW attributes her 100 percent batting average to knowing the potential candidates and being able to evaluate their future desire to practice medicine in the community. The hospital also sponsors nurses for training, and 50 percent of their nursing staff has obtained training that was jointly sponsored by the hospital and the state.

Recruiting physicians is only the first challenge. Operating a profitable hospital-owned physician practice is the second challenge. The profitable hospital contracts with local physicians to provide services to their local rural health clinic and needs to operate the clinic efficiently enough to cover the costs of physician compensation. The physicians are provided with an income guarantee for the first year and then are paid a

fixed fee per of approximately \$20 per patient visit and additional fees for certain procedures and covering the emergency room. The financial incentives to see more patients appear to be working and business is “booming” at the hospital owned rural health clinic. The rural health clinic that contracts with the physicians has remained profitable enough to cover its direct expenses and its share of the hospital’s overhead expenses.

The profitable hospital has successfully executed its long-term plan to “grow their own” physicians and gained momentum. Hospital staff interviewed for this study praised the cooperative spirit of their medical staff. It was not the uniqueness of the profitable hospital’s strategy that led to its success. Rather it was a combination of skill and good fortune that allowed them to successfully execute the plan. Historical success provides momentum for future recruitment since the community can now offer prospective physicians a place in a profitable practice, six colleagues to share on-call coverage with, a modern and financially stable hospital, and apparently smooth relationships between members of the medical staff.

#### *Failed Execution and a Lack of Momentum*

The unprofitable hospital (UN-SW) in the southwest used to have eight physicians including a surgeon in the community decades ago. As those physicians left or retired, none were replaced until the town was down to one physician. At that point they started to recruit J-1 visa physicians. The town is currently served by two physicians currently under J-1 visa waivers and a third who came to town under the J-1 visa program and decided to stay. In addition to relying on J-1 visa physicians, the unprofitable

Southwestern hospital (UN-SW) has sponsored two young men from the community and paid for their medical school education. Upon completion of medical school, both men chose **not** to return to the community and “bought out” their obligation to practice in the community.

Convincing young physicians in the community to join the staff of UN-SW may be especially difficult due to lack of established colleagues. While the profitable facility, PR-SW, has six physicians to share emergency room coverage duties, the unprofitable hospital has three. Two of the unprofitable hospital’s physicians may leave when the term of their J-1 visa waiver expires, placing more risk on any new physicians coming to the community. In addition to lacking a stable medical staff, the unprofitable facility is worn down and does not currently have access to diagnostic equipment for bone scans, MRIs or ultrasound tests. The age of the facility, the size of the medical staff, and the instability of the medical staff could make recruitment difficult.

The unprofitable hospital has operating margins close to –50 percent, suggesting that it is suffering from more problems than recruitment difficulties. One of the difficulties is a significant bad debts problem. From 1997 to 2000 the hospital’s bad debt expenses have ranged from 15.8 percent of net patient revenues (net of contractual discounts) to 23.6 percent of net patient revenues. The financial troubles of UN-SW may be exacerbated by a lack of tools necessary for sound financial decision making. The hospital does not have a CFO; the current administrator is not comfortable interpreting Medicare cost report data; and the hospital’s financial information system is not up to date. Therefore, the administrator is relying on financial advice from their accounting firm as she attempts to “turn around” the hospital’s business office.

### *Administrator Tips on Physician Recruitment*

We have asked administrators to share their thoughts on methods of recruiting physicians. One interesting fact from the list of tips shown below is that different administrators had different thoughts regarding the financial viability of employing physicians.

- 1) Don't employ physicians. Employed physicians get lazy and cause hospital owned clinics to lose money.
- 2) Employ physicians. Hospital owned practices can be profitable if physicians are paid based on the revenue they generate or the number of patient visits.
- 3) One-year income guarantees may be necessary recruitment tools and should not be viewed as an unnecessary expense.
- 4) Recruit visiting specialists. They will create economies of scale for your ancillary services.
- 5) Offer local physicians and visiting specialists the option of either renting office space in the hospital and/or building their own practice on the hospital campus.

## **5.0 CONCLUSIONS**

There is a wide variance in the size, staffing levels, and profitability of small-town hospitals. Despite the movement toward outpatient services, admission volume continues to significantly influence a hospital's financial performance. No hospital with fewer than 300 admissions is classified as financially successful, and no small-town hospital with more than 2,500 admissions is classified as financially struggling. While hospitals with under 500 admissions represent 50 percent of financially struggling hospitals in our study, they only represent 5 percent of financially successful hospitals.

While the smallest hospitals rarely generate operating profits, we have found several hospitals with between 300 and 2,500 admissions that consistently were profitable. While the hospitals in our case studies may not be representative of all small rural hospitals, the case studies found several factors that were common among financially successful hospitals: a) successful physician recruitment b) visiting specialists c) patients who pay their bills d) low overhead costs. Among the four ingredients, low overhead costs may be the most difficult to achieve and maintain. In our three case studies, administrators of profitable hospitals were all willing to defer projects or close health care services that were unprofitable. The closure of valuable health care services is viewed as protecting the hospital's balance sheet so the hospital can serve patients in the future.

Our first case study examines a financially successful hospital that is located in a very small town. By drawing patients from a fairly wide and densely populated area, the hospital is able to overcome its economy of scale problems. Its counterpart, located in a neighboring county, does not have a successful history at managing relationships with physicians and has had much more difficulty with its bad debt burden. The differences in physician-hospital relationships, physician recruitment, and bad debts explain the differences in profitability.

Our second case study involves two Midwestern hospitals. Both are well maintained and well organized facilities. However, they have chosen very different strategies. The profitable hospital has chosen to operate out of a very simple physical plant with a very lean staff and limited services. The financially strained hospital provides a much wider spectrum of services and has a much higher level of overhead.



Currently the revenue from the additional services does not cover the hospital's high cost structure. The decision to staff the hospital for a wide range of services and charge modest prices for those services can be viewed as the cause of the hospital's financial difficulties. It is a difference in strategy rather more than a difference in ability to execute strategies that distinguishes the two facilities. Interestingly, both hospitals are converting to Critical Access Hospital status and should both be generating sustainable levels of net profits following conversion.

Our third case study examined two hospitals in sparsely populated counties in the southwest. The profitable hospital successfully executed its long-range plan for recruitment of physicians. The unprofitable hospital has a lack of long-term planning and has failed to execute its plan to recruit physicians. The dramatic differences in operating margins that exist between the two Southwestern hospitals are primarily due to differences in abilities to execute strategies rather than differences in strategies.

When looking for common characteristics of financially successful hospitals operating in small markets, this study has found the following:

- ◆ All of the 48 highly profitable small-town hospitals had over 300 admissions per year.
- ◆ The three profitable site-visit hospitals had five or more admitting physicians in their community.
- ◆ In each of the three case-study regions, the hospital that arranged more visiting specialist clinics was the more profitable of the two hospitals.
- ◆ Administrators of the three profitable site-visit hospitals had all been employed by their hospital for over 30 years.
- ◆ All three financially successful hospitals and one of the struggling hospitals had readily available financial and productivity data from various departments. Two financially struggling hospitals had difficulty obtaining requested data.

- ◆ Administrators at financially successful hospitals indicated a willingness to limit services in order to protect their hospital's balance sheet. The three administrators had either maintained a lean set of services or had recommended the closure of some hospital services to preserve the strength of their hospital's financial condition.
- ◆ Bad debt expense was a primary contributor to the financial woes of the two case-study hospitals with severe financial problems.
- ◆ All three financially struggling hospitals were owned by the county and received county financial support.
- ◆ Differences in community outreach efforts and networking did not appear to explain differences in profitability among the six site-visit hospitals.

## **6.0 DISCUSSION OF PUBLIC POLICY OPTIONS**

This paper highlights two key causes of financial strain at small-town hospitals: low patient volumes and bad debts. Patient volume can be influenced by the quality of management via improved physician recruitment and reduced patient bypass. However, in markets with 300 or fewer potential admissions, operating losses are almost inevitable if the hospital receives current prospective payment rates from Medicare. To help small rural hospitals, federal policy makers created the Critical Access Hospital (CAH) program. This program allows cost-based Medicare payments to hospitals with fewer than 15 beds. If a Critical Access Hospital's private payer patients can cover the costs of bad debts and charity care, Critical Access Hospitals will survive. However, as one of our case studies illustrates, even with conversion, hospitals may still incur significant operating losses if their bad debt burdens are larger than profits on private payer patients. Given current public policy, the primary financial risk for very small hospitals is the burden of bad debts.

When hospitals are slightly larger, in the range of 300-2,500 admissions, we observed a wide variance in financial performance. Poor financial performance may be

due to bad debts, poor physician relations or poor physician recruitment. In other cases, negative operating margins may reflect hospital's conscious choice to provide the community with unprofitable services as part of the hospital's mission. If these hospitals are more than 35 miles from another provider or meet other criteria, they qualify for a degree of Medicare cost-based reimbursement under the Sole Community Hospital program. However, most rural hospitals have competitors within a 35-mile drive and do not qualify for the Sole Community Hospital program. To help these non-isolated hospitals, policy makers could consider a supplemental Medicare payment in the form of a low-volume adjustment as has been discussed by MedPAC (June, 2001).

### **Structuring a Low-Volume Adjustment**

Congress has discussed a low-volume adjustment that would provide additional payments to hospitals that have fewer than 800 admissions per year. In this paper, we found that hospitals with fewer than 1,000 admissions were much more likely to be generating substantial losses than substantial profits. The difficulty with paying hospitals higher prospective rates when they have fewer admissions is that it penalizes hospitals that have very low bypass rates due to being perceived as high-quality providers. For example, two hospitals may have market areas of 15,000 people of which 10 percent are hospitalized during the year. One hospital with a strong reputation for providing high-quality care may have 900 admissions per year out of the 1,500 admissions in its market area. A neighboring hospital may also have a market area of 15,000 people but only receive 300 admissions per year out of the 1,500 admissions due to being perceived as providing low-quality care. The hospital that fails to attract patients would receive

additional payments if low-volume payments were based on admissions, while the hospital that is perceived as providing high-quality care would not receive any additional payments.

As an alternative to a low-volume adjustment based on admissions, policy makers could consider a low-volume adjustment based on the total number of people in a hospital's market area that are admitted to any hospital. Discharge data sets from several states already report patient discharges by patient zip code. Hospitals that have very few potential patients in a defined market area (e.g. a 30-mile radius) could be given a low volume adjustment. If discharge data proves difficult to obtain from some states, the population of various census tracts within a 30-mile range of a hospital could be used to determine the low volume adjustment. By using the number of potential admissions or area population as the criteria for a low-volume adjustment, hospitals would have stronger incentives to be perceived as providing high quality care and to retain patients locally. A second benefit of basing payments on area needs rather than hospital admissions is that small hospitals in the same community could merge without being concerned about triggering a decline in Medicare payment rates.

Further research is needed to evaluate whether a low-volume adjustment would be a cost-effective complement to the critical access program. Currently, it is not clear how many hospitals would choose a low-volume adjustment over cost-based reimbursement under the Critical Access Hospital program.

## **Structuring a Bad Debts Adjustment**

Policy makers should consider helping small hospitals that are essential for access to care with their bad debt burdens. In our case studies, we found that a significant share of the difference in hospital profitability stemmed from differences in bad debts. Currently, bad debt burdens fall on private payer patients and county governments. County governments' willingness and ability to reimburse hospitals for their bad debts will vary from county to county. Therefore, differences in bad debts may lead to differences in hospitals' financial viability and patients' access to care. MedPAC (June 2001) has proposed that bad debt expense be considered when evaluating disproportionate share (DSH) payments. Further research is needed to evaluate whether disproportionate share payments are an appropriate method for dealing with bad debts especially given the fact that Critical Access Hospitals do not currently qualify for disproportionate share payments.

## **Coordinating Policies**

Policy makers will need to coordinate policies regarding DSH payments, the Critical Access Hospital program, and low-volume adjustments. Coordination is needed since changes to one policy may affect how hospitals use the other programs. For example, if the DSH program is modified to factor in bad-debt expenses (as MedPAC has suggested), then many small hospitals may prefer a low-volume adjustment with DSH payments rather than cost-based reimbursement. This could reduce Medicare costs if the low-volume adjustments create stronger incentives for cost control than cost-based reimbursement. Any coordinated plan for dealing with the dual problems of low volumes

and bad debts should seek to improve patient access to care in sparsely populated areas while maintaining incentives for cost control. Uncompensated care and low volumes are key problems for rural hospitals and need to be addressed in a careful and coordinated manner.

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