

Physician Perspectives On The Causes Of Rural Hospital Closure, 1980–1988

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Background: Few studies seeking to determine the causes of rural hospital closure have examined the opinions of individuals intimately involved with the closed facilities. The purpose of this research was to examine the reasons for small sole community general hospital closures from the perspective of local physicians and to compare these reasons with the perceptions of local mayors.

Methods: Hospitals in this study were selected from a list provided by the American Hospital Association. A two-page questionnaire was sent to every physician who had practiced in the towns in which a sole community general hospital had closed between 1980 and 1988.

Results: Physicians reported government reimbursement policies as the most important reasons for hospital closure, agreeing with the mayors' opinions. Other reasons cited were general financial difficulties, competition from other hospitals, and bad board leadership. More than three-quarters of the physicians surveyed considered the quality of care provided by their facilities to be average or better.

Conclusions: The closure of rural hospitals that physicians consider of average or better quality suggests that many of the closed hospitals could have continued to provide valuable services to the residents of their communities. Efforts must be made to ensure that rural communities are not losing viable and useful facilities. (J Am Board Fam Pract 1993; 6:556-62.)

Ten percent of United States rural hospitals closed in the 1980s.¹ American Hospital Association data show that 206 rural hospitals closed between 1980 and 1988, and the rate of these closures has remained high throughout the late 1980s and early 1990s.² Many observers are alarmed by these trends, while others are sanguine and contend that most hospital closures in rural areas represent an appropriate market response to decreased utilization of inpatient facilities.^{3,4} Rohrer⁵ has suggested that a hospital closure would present a major problem for a rural community only if it were the sole facility in town. In a recent study Hart and colleagues⁶ examined the consequences of sole facility rural hospital closures, surveying the mayors of these towns to obtain an insight into the causes and sequelae of these closures.

The purpose of this research was to examine the reasons for closures of small sole community general hospitals from the perspectives of local

physicians. We hope that examination of these perceptions will further increase our understanding of the dynamic and social importance of recent hospital closures from those experiencing the events within the communities. Our results are compared with those from an earlier similar study of the perceptions of local mayors.⁶

Hospitals and physicians provide mutual support in rural communities.⁷ Hospitals are important in helping rural communities attract and retain physicians, providing access to services, equipment, and support personnel that would be financially prohibitive for an individual practitioner.⁸ Without physicians, of course, hospitals cannot function. Indeed, research has shown that loss of physicians and rural hospital closure often occur together, particularly for small hospitals with few physicians.⁹ A strong majority (71.1 percent) of the mayors of rural towns that lost their hospitals in the 1980s cited a shortage of physicians as an important cause of the hospital closure.⁶

Rural hospitals have been closing for a variety of reasons. Jeppson¹⁰ grouped these reasons into three categories: community environmental factors, hospital environmental factors, and government reimbursement programs. Community environmental factors refer to the economic bases

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and socioeconomic characteristics of these communities. Rural communities might exhibit some or all of the following characteristics that make it difficult to support a hospital. Extractive industries often form the economic bases of these communities. These activities, which include agriculture, mining, and timber harvesting, tend to be unstable. The problems rural hospitals have suffered in the 1980s have had an adverse impact on the financial climate in which they must operate and have left many of their potential clients unemployed or uninsured.¹¹ Urban areas offer better opportunities for employment and attract working-age individuals from rural areas. This migration of young adults has resulted in a concentration of the elderly, whose special health needs and reliance on Medicare can strain the capacities of rural hospitals to provide care.¹² In some locales declining population also diminishes the demand for services and the hospitals that provide these services.

Hospital environmental factors include facility and equipment age, availability, and expense, as well as the medical and social environment in which physicians must practice. Many rural facilities were built during the 1940s. Some of these structures are in need of repairs or fail to meet new government standards for certification.¹³ Antiquated equipment is difficult to repair and not satisfactory to many physicians, and the newest technology is often too expensive to obtain.¹⁴ These factors, combined with the professional isolation, heavy workloads, and lack of urban amenities, make it difficult for rural towns to attract and retain physicians and other health care providers.¹⁵

Government reimbursement programs have been dominated in recent years by the prospective Medicare reimbursement system based on diagnosis-related groups (DRGs). Many observers believe the federal government's prospective system of reimbursement for Medicare procedures was a major culprit in rural hospital closings during our study period. Although the situation is improving somewhat today, the differential funding of urban and rural hospitals in the late 1980s was particularly stressful. Tauke¹⁶ stated that the difference in labor cost reimbursement was based on the assumption that these costs were far lower for rural hospitals than they actually were and found little basis for the nonlabor differential, which assumed

that rural facilities enjoyed lower nonlabor costs. Rohrer⁵ pointed out that rural hospitals incur higher material costs because they tend to be small and cannot take advantage of economies of scale. Bailey¹⁷ reported that Medicare reimbursed rural hospitals at a rate 30 percent less than their urban counterparts, while rural total costs were only 10 to 15 percent less.

Some studies have recently examined the factors distinguishing rural hospitals that close from those that remain open. Longo and Chase¹⁸ examined structural determinants of hospital closure in a retrospective case-controlled study comparing hospitals that closed with those that remained open. They found low physician-population ratio, little diversification of services, low occupancy rate, profit status, location in the South, and bed size less than 50 to be positively associated with the closed hospitals. In a similar study, Mayer and others¹⁹ also found profit status, low occupancy rate, and limited services to be positively correlated with hospital closure. Environmental factors found to be positively correlated with hospital closure were the number of competing beds in the county, decreasing county population, and contiguity to a metropolitan statistical area (MSA). Mullner and others²⁰ found for-profit status, nongovernment nonprofit status, number of hospitals in the county, the presence of a long-term care unit, and decreasing number of services to be positively associated with hospital closure. These structural factors could reflect one or more of the community, hospital, or reimbursement factors mentioned above.

The literature cited above raises interesting questions about rural hospital closure and its impact on a community. Were the facilities that closed actually providing substandard care, or did they provide an adequate level of care to their communities? Who played a major role in the decision to close these hospitals, and what were the reasons for their actions?

The purpose of our study was to provide additional insight on these issues by examining the causes of rural hospital closures from the perspective of physicians who practiced in these towns. The study setting included all US rural nonfederal short-stay hospitals that closed between 1980 and 1988 as defined by the American Hospital Association (AHA).²¹ Hospitals were included only if they were the sole facilities in their com-

munities and were smaller than 100 beds in size. We refer to them as closure hospitals in the remainder of this report.

Methods

Hospitals in this study were selected from a list provided by the AHA whose definition of rural includes all places located outside of metropolitan statistical areas. The AHA listed 207 rural hospital closures during this period. Multiple closures of the same hospital were eliminated from the study, as were individual closures that met the following criteria: they occurred in towns with more than one hospital, the hospitals reopened or a new one opened, they were not nonfederal short-stay hospitals, they had 100 or more beds, their counties became MSAs, or the AHA data were found to be incorrect. Removal of these out-of-scope hospitals from our study left a total of 132 hospital closures in the 1980–1988 time period.

Physicians associated with these rural hospitals were located using AMA physician directories (1979–1988). If the directories were not published for the hospital closure year, the closest published data preceding hospital closure were utilized. These documents listed the names and addresses of physicians practicing in the United States by their cities and states. This information was recorded for each physician included in the directories for the year in which his or her town's hospital closed. The 1988 directory was then examined to determine which physicians had moved into or out of town or had become unavailable. Addresses that had not changed were checked for accuracy and adjusted when necessary. Physicians who moved into town were added to the list. The new addresses of those who had moved were found in the alphabetical cross-index and were substituted for the old. This information yielded a total of 586 physicians associated with the rural hospitals in our study. Thirty-two additional physicians were unreachable; they had no address listed in the 1988 directory and had either died, moved, retired, or left the US. Letters were sent to the last known addresses of the 32 physicians in the unreachable category to confirm their status. Eight letters were returned as undeliverable, 10 had responses indicating that the physician in question had died, and the remainder had no response. We were therefore confident that the individuals in this category were indeed unavail-

able, justifying our not including them in the response rate calculations.

A two-page questionnaire on the causes and consequences of the hospital closure was sent to each of the 586 physicians selected. Two mailings were conducted, the first in the fall 1989 and the second in the winter 1990. Seventy-six questionnaires were returned as undeliverable (moved with no forwarding address), 34 were returned indicating the respondent had never practiced in the community in question, and 6 indicated that the physician had died. Of the remaining 470 questionnaires, 293 were returned yielding a response rate of 62.3 percent. Inadequate responses to the survey questions rendered 42 of the questionnaires unusable, leaving 251 usable questionnaires. For the purposes of this study, only the 212 physician respondents who had lived in town at least 6 months before the hospital had closed were included.

The study questions were based on issues discussed in the literature on hospital closure and revised after a pretest conducted on rural physicians not in our sampling frame. Multiple-choice, open-ended, and scaled-response questions were used. A series of questions about the physicians and their practices were asked, which included their specialties, ages, and contacts with the closed hospital. Physicians were asked how access had changed for several groups in the community, how the community's health status had been affected, and what effect the hospital closure had on their practices. They were also asked about the quality of care of the closed facility, the adequacy of the supply of physicians in the community and their roles in the hospital closure, the relative importance of a series of contributing factors, and what they considered to be the actual reasons for the hospital's closure. The number of physicians in town at the time of the hospital closure, calculated from the AMA physician directory for that year, was merged with the physicians' individual responses. Descriptive statistics were used to show the physicians' responses to the survey questions. These physicians' results were contrasted with the responses of mayors from an earlier study.⁶

Results

The average age of survey respondents was 52.9 years old (range = 30 to 92 years). The mean number of years practiced in town was 14.0 (me-

dian = 8.5). Most were actively practicing at the time of the survey, with 71.4 percent in full-time and 11.4 percent in part-time practice. The remaining 17.2 percent had retired. Eighty-one percent of the physicians resided in or near the hospital closure towns at the time they answered our questionnaire. Nineteen different medical specialties were represented among the respondents. More than three-quarters were accounted for by the two most common specialties, family or general practice (64.8 percent) and general internal medicine (11.0 percent).

Physicians were asked to list the three most important reasons for the closure of their hospitals in order of importance: 94 different reasons were listed. These 94 response types were collapsed into 10 categories (Table 1). The respondents considered the most important reason for hospital closure to be government reimbursement policies (32.0 percent), followed by poor hospital management (18.8 percent) and general financial problems (14.7 percent). A similar pattern occurred when we examined the percentage of physicians who included these reasons among any of their first three responses. Government reimbursement policies (68.8 percent) were mentioned by more than two-thirds of the physicians. Poor hospital management (40.7 percent) was cited by more than one-third, and general financial problems (29.1 percent) and structural reasons, such as community poverty (25.1 percent) were cited by more than one-quarter of the physicians.

Table 1. Most Important Perceived Reasons Hospitals Closed (1980–1988, n = 197).

Reasons for Closure	Percent Listed First	Percent Listed First, Second, or Third
Government reimbursement policies	32.0	68.8
Poor hospital management	18.8	40.7
General financial problems	14.7	29.1
Structural (poverty, etc.)	10.7	25.1
Poor reputation and services	5.6	18.6
Hospital competition	4.1	14.1
Lack of community support	3.6	15.6
Physician shortage	3.6	13.1
Poor physician quality	3.6	11.1
Other	3.6	8.5
Total	100.0	NA

Physicians' perceptions of the reasons for hospital closure were similar to those of the mayors of these towns, with three notable exceptions.⁶ Physicians (3.6 percent) were less likely than mayors (18.8 percent) to cite physician shortage as either the most important reason or as one of the three most important reasons (13.1 percent and 38.4 percent, respectively) for closure of their community's hospital. More physicians than mayors considered lack of community support (15.6 percent and 4.2 percent, respectively) and government reimbursement policies (68.6 percent and 40.1 percent, respectively) as important reasons for hospital closure. One possible reason that fewer physicians than mayors cited physician shortage is that towns without any physicians were not represented in the physician survey, while they were included in the mayor survey. On the other hand, the difference between the responses to these questions might be reflecting a community-blames-physicians and physicians-blame-community mentality.

To examine further the causes of hospital closure, physicians were next asked to rate 10 factors as very important, somewhat important, or not important reasons for their local hospital closure (Table 2). The category that was rated as somewhat or very important by the most respondents was "other factors not under local control," which included economics, federal reimbursement, and government regulations. Nearly 90 percent of the total number of physicians thought these factors were important. Poor hospital management and administration (82.9 percent) were the next most frequently implicated reasons. Other factors mentioned by more than one-half of the physicians were competition from other hospitals, inadequate hospital board leadership and planning, lack of community leadership, and lack of physician-hospital teamwork. Again, federal reimbursement and poor management and administration were seen as the most important factors related to hospital closure, mirroring the physician responses to the above open-ended question.

The differences between the physician ratings in Table 2 and the responses of the mayors to the same question were similar to those between their open-ended responses.⁶ Physicians cited physician shortage less often than mayors (45.9 percent and 70.9 percent, respectively) and were more likely than the mayors to implicate poor hospital

Table 2. Percentage of Selected Factors Considered Important or Somewhat Important as Perceived Causes of Hospital Closure by Number of Physicians in Town before the Hospital Closure (1980–1988).

Factors Causing Closure	Physicians Practicing before Closure		Total Physicians (n = 187)
	1–3 (n = 67)	> 3 (n = 120)	
Other factors not under local control (reimbursement levels, regulations, etc.)	88.7	90.6	89.9
Poor hospital management and administration	79.1	85.0	82.9
Competition from other hospitals	73.1	79.2	77.0
Inadequate hospital board leadership and planning	72.7	75.5	74.6
Lack of community leadership	63.6	66.7	65.6
Lack of hospital-physician teamwork	45.5	60.0	54.7
Physician shortage	43.3	47.4	45.9
Bad hospital reputation	39.1	44.6	42.6
Poor-quality hospital care	26.2	43.0*	37.1
Poor-quality physicians care	28.8	33.9	32.0

*Significantly different (chi-square, $P \leq 0.05$).

management and administration (82.9 percent and 64.9 percent, respectively), inadequate hospital board leadership and planning (74.6 percent and 56.7 percent, respectively), a lack of community leadership (65.6 percent and 41.7 percent, respectively), and bad hospital reputation (42.6 percent and 30.8 percent, respectively) as causes of hospital closure.

The data in Table 2 were further subdivided to examine whether physician opinions differed by the number of physicians practicing in town at the time of the hospital closure. Comparing responses from physicians practicing in communities with few (1 to 3) physicians at the time of the hospital closure with those practicing in communities with larger (4 or more) populations of physicians, only one category of responses differs significantly. Physicians practicing in communities with few physicians were less likely than those from communities with more physicians (26.2 percent and 43.0 percent, respectively) to consider poor-quality hospital care as an important cause of hospital closure.

Nearly one-half of the physicians rated the quality of care provided by their hospital 2 years before it closed as average, while an additional 31.7 percent considered their hospitals' quality of care to be above or far above average. Forty-two percent of the physicians believed that the community would rate the hospitals' care 2 years before it closed as average, while 38.9 percent more rated quality as above or far above average or better. More than two thirds (67.6 percent) of the respondents did not believe that physicians were adequately involved in the decision to close the hospital. More than one third (37.5 percent) of the physicians reported that their communities had too few physicians before the hospital closure, far fewer than reported elsewhere for the mayors (58.8 percent).⁶ This difference again might, at least in part, reflect that towns without any physicians were not represented in the physician survey. More than two-thirds (68.8 percent) of the physicians reported some physician turnover prior to closure, supporting the argument that physician supply had an influence on the hospital closures.

When asked whether physician actions were a cause of the hospital closure, only 27.1 percent responded in the affirmative. These respondents listed the major physician actions that contributed to the closure, which were divided into six categories (Table 3). The most common reasons cited were that physicians were not supportive of the hospital or compliant with its policies (5.6 percent); there was strife between physicians or with the community, administration, or hospital board

Table 3. Percentage of Physicians (n = 190) Citing Selected Physician Actions as Causes of Hospital Closure (1980–1988).

Physician Action	Percent
Physicians' actions were not a significant cause of the hospital closure	72.9
Physicians were not supportive of the hospital or compliant with its policies	5.6
Strife between physicians or with the community, administration, or hospital board	5.6
Failure to use the hospital	5.6
Lack of physicians	3.1
Poor-quality physicians	1.0
Unspecified physician actions	5.2
All other responses	1.0

(5.6 percent); and that physicians failed to use the hospital (5.6 percent). A number of physician respondents who thought that physician actions contributed to the hospital closure failed to specify any particular action (5.2 percent). The remaining actions fell into the categories of physician shortage (3.1 percent), poor or unqualified physicians (1.0 percent), and all other responses (1.0 percent).

Discussion

Government reimbursement policies were the reasons for hospital closure considered most important by the physicians. Combined with other frequently cited financial problems, physicians believed that a hostile economic environment was created that severely strained their rural hospitals. Most of the physicians thought their hospitals were useful institutions providing economic benefits and important health services to their communities.

The recent adjustment in favor of rural areas to the Medicare rural-urban reimbursement differential is a step in the right direction, but the effects of the adjustment must be monitored to ensure they take full account of the true costs faced and benefits provided by rural hospitals. At the very least, these institutions must no longer be monetarily penalized for serving Medicare and Medicaid patients in rural communities.

In contrast to most of the county-level studies examining the causes of rural hospital closure, physicians cited poor hospital management as a major reason for hospital closure. There are many issues to address in considering the relation between management and hospital closure. How does one distinguish between a poorly managed hospital and one that is not viable? How can poor managers be recognized before they have caused their hospitals to close? What steps can be taken to help the poor administrator to improve? Cooperation between the managers of rural hospitals is one option. Strategies and techniques to cope with the changing medical and economic environment could be shared. It is possible, however, that the managers who needed them most would be least likely to find out about and use such services. The widespread establishment of state offices of rural health and the involvement of area health education commissions are among the steps that can facilitate better hospital management.

Few of the respondents of either this survey or the earlier mayor survey considered the quality of their community's hospitals to be below average. These facilities did close, however, indicating that the towns in question lost hospitals these observers considered to provide at least adequate care. While both physicians and community leaders implicated one another more often than themselves as causes of the hospital closure, neither held themselves blameless. Perhaps this lesson could be applicable to those communities struggling to retain a threatened hospital: no single group or individual is responsible for a hospital closing, and each element of the community should seek to find what it can do to improve the prospects of the endangered facility. If a hospital is to retain or regain its viability, cooperation in seeking a solution is surely more productive than finger pointing.

Conclusion

Rural hospitals provide many services to the communities in which they are located,⁸ but each year relatively large numbers of rural communities lose their hospitals, and more are faced with this grim prospect. Although the communities (represented by the mayors) and the providers (represented by physicians) tended each to believe themselves only partially to blame for the failure of their facility and to place more of the blame on the other, both groups implicated the same problems as most important: government reimbursement policies, general financial problems, and poor hospital management. Physicians also believed that a lack of community support played a role in deciding whether the threatened facilities closed, which highlights the importance of cooperation and support by all members of a community whose hospital might be in danger of closing.

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